

108 FANTASTIC FESTIVE PAGES FOR ONLY 70p

COMPUTER EXPRESS

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

THIS WEEK

AMIGA

Fancy a top-notch UK route planner for less than £40?

ATARI

Get Virtual! The ST cyber construction kit is on its way

PC

The PS/1 breakthrough!

PD

All 1990's best free software

MACINTOSH

Classic secrets revealed!

PLUS

COLUMNS ON:
PROGRAMMING
CONSOLES
TECH TIPS
USER GROUPS
PD SOFTWARE
& 52 PAGES OF

SHOPPING
EXPRESS
BARGAINS !!!

TOMORROW'S PORTABLE

A takeaway Mac for £2000?
Express test drives Outbound...



HANDS ON FAMICOM!



Nintendo's 16-bit console put through its paces.

PLUS

There's a new Sega due too!



THE GREAT SOFTWARE RIP-OFF : The industry replies

1990:



What were the events which shaped the year?

1990:

Find out what Centrefold made of it all



frontend

Christmas Games Special

Bombjack bounces back

The simple things in life are always the best, and you don't get much simpler than Bombjack. It's been one of the most amazingly successful games of the past five years, not because of stunning graphics or depth of gameplay, but because of its vindictive and malevolent addiciveness.

Now Elite has launched Mighty Bombjack, a version for the 1990s. Essentially, the game is much the same as before – you get to float around among a variety of backdrops picking up bombs and avoiding buddies. And, as they say, that's it.

Both the original Bombjack, launched in 1986, and the later Bombjack II hit the top of the



charts. Mighty Bombjack has already appealed to half a million Nintendo owners so it stands in

good stead. It's out for the ST, Amiga, PC and C64 at the end of January. ■

Late Recall "out soon"

Ocean's long awaited video game version of the hit movie Total Recall could be launched any time now, according to the firm.

Programming problems which caused a delay of one month appear to have been solved. A spokeswoman said that the team had been "working flat out" to complete the game before Christmas.

Total Recall will feature five levels with plenty of fights, car chases and cyber action to keep sci-fi fiends happy. ■

What ho! Jolly wizard prang

"I say chaps. It's chocks away for this wizard new game thingy from a bunch of colonials calling themselves MicroProse. They're awfully decent sorts and you know our Knights of the Sky thing is a jolly good wheeze."

"One gets to ride in one's crate from the spiffing comfort of one's own mess. It's an absolutely splendid job and a perfect opportunity to bag some more Bosche in anything from a Sopwith Camel to a de Havilland."

If you fancy getting in some above the trenches action check out Knights of the Sky now on the PC. Atari ST and Amiga versions will follow in a spring offensive. ■



Crosswords go 3D

A weird new concept in word games has been launched by Shropshire based Microsphere. It's a three-dimensional cryptic crossword, with puzzles running on the surface of a cube, and throughout the layers within. Instead of just 'across' and 'down' clues, there are also 'through' clues.

Cubeword is to be launched on the PC for £19.95. Microsphere thinks it will be a big hit in offices where the PC is king. The puzzle is no cinch – an answer disk won't be available until June (that will cost a fiver). Call 0694 722538. ■



Atari flies Lynx to Gulf troops

Atari is to donate 60 Atari Lynx games machines to bored American troops in the Gulf.

A total of 15 kiosks each containing four machines will be sent to recreation centres in Saudi Arabia. The booths are similar to those seen in computer shows.

Atari decided to make the donation after a G.I. sent a letter to the company asking for a sun visor to help play Lynx games". The firm is also offering soldiers the chance to buy Lynx machines at cost price.

Commenting, boss Sam Tramell couldn't resist his customary dig at Japanese rival Nintendo: "We're sending American technology to the desert." ■

Take on the world (again)

Just when people stopped buttonholing you in the pub about "that marvellous man Milla" or "the tragic moment when Waddle missed his penalty" Virgin goes and launches another World Cup computer game.

This time it's the Sega Megadrive version of World Cup Italia '90 game which was immensely successful in arcade and home computer guise.

No doubt the thousands of Christmas's new Megadrive owners will be joining in the fun of beating the United Arab Emirates, drawing against Ireland, and being thrashed by West Germany. It costs a hefty £29.99. ■



Handheld Dragon

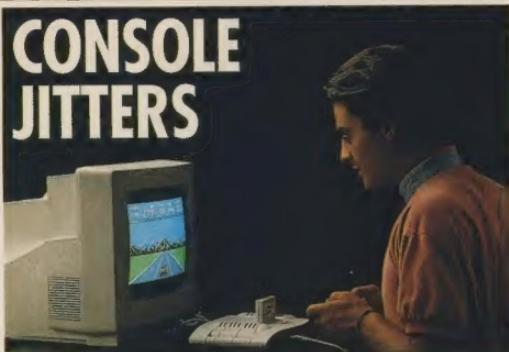
New UK games label Moviefiled is to launch a Gameboy version of Dragon's Lair.

The original ST and Amiga versions wowed gamers with its state-of-the-art graphics. However, Dragon's Lair was terribly short on gameplay, and when it was converted to the 8-bits major changes were made.

The Gameboy version will be the same as that which appeared on such as the Amstrad CPC with plenty of arcade sequences and puzzles to keep gamers happy. It'll be out by the end of February. ■



CONSOLE JITTERS



Speculation was growing last week of a last minute pre-Christmas price-cut on Amstrad's GX4000 games console.

Amstrad has sliced the dealer price of the machine, a move which is being interpreted in the trade as "a nod and a wink" to independent dealers and High Street chains to drop the price of the system. Chains such as Dixons are likely to include the CPC based machine in a last minute sale.

Sources in the trade have been expressing dissatisfaction

with the CPC console's sales performance and it is understood that many retailers have not found the machine to be the success Amstrad had hoped. This is also the case with Commodore's C64 based GS system which does not appear to have caught on yet. Both machines are likely to be reviewed carefully by their manufacturers in the New Year.

A spokesman for Amstrad said that Christmas shoppers were simply waiting until the last minute, and that sales had been

slow on all consumer electronics products. However, Atari's ST and the Commodore Amiga have performed exceptionally well this Christmas.

The Sega Megadrive appears to be the most popular console among buyers, although that has not come close to the 16-bit home computers in sales terms. Some in the industry have suggested that the so-called console boom has not, and will not, happen in a country where multi-function home computers are still so highly regarded. ■

Hacker in the House

Wouldn't it be nice to have the most important job in the country? To be Prime Minister, the person who tells all the other people what to do?

Unfortunately, it's not as jolly as all that. You've got other politicians to avoid (the Cabinet), important people to suck up to (the press) and, worst of all, there are appalling employees who seem to tell you what to do (the Civil Service).

If it still sounds attractive, why not try Mastertronic's newly budgeted version of *Yes Prime Minister* in which you become Jim Hacker, television's bumbling premier. In the game it's your job to thwart the Civil Service, in the form of the devious Sir Humphrey Appleby, from attempting to "assist and advise the Prime Minister in matters of national importance".

You can take the seat of power for £2.99 on Spectrum, CPC and C64. ■



Techie help at Xmas



On Christmas and Boxing Day Express's technical editor Keith Pomfret will be taking calls from any of our readers experiencing difficulties with those brand new computers.

If you're keen to get started with your new computer, but can't seem to get the thing to work, you can call Keith who'll try and sort the problem out.

Keith Pomfret: "While most people are tucking into their turkeys I'll be more than happy discussing techie problems. It's a real pain for most people if something goes wrong with a new machine at Christmas. There's usually no-one to turn to."

Isn't he a love?

Call Keith on Vodafone 0831 129242. Calls cost 38p per minute peak or 10p a minute off-peak. ■

CONTENTS

FEATURES

1990 round-up

Everything wild, whacky and wonderful that made the headlines - page 14

Best of PD 1990

The best free software for the ST and the Amiga - page 75

REVIEWS

Nintendo's 16-bit Super Famicom

First review of this state-of-the-art console - page 78

Outbound lap top

The Mac portable alternative - page 80

EVERY WEEK

Games Week

Hot tips and news,



plus Teenage Mutant Hero Turtles review -

page 70

Console Zone

- page 72

Competition

£1,400 of prizes to be won in a fabulous festive free-for-all! - page 82

News

4-9

Opinion

10

Letters

12

SPECIAL

Outrageous computers wanted!

Tell us how weird your machine is and win £50 - page 68

SHOPPING EXPRESS

| | | |
|------------|----|--------------|
| Mac | 18 | Whole Wired |
| CPC | 19 | World |
| Amiga | 21 | Programming |
| Archimedes | 22 | Centrefold |
| PC | 23 | On-line |
| C64 | 24 | Tech Tips |
| Spectrum | 26 | Circuit City |
| ST | 27 | PD Column |

Report by Colin Campbell

That great mob of money spinners, capitalists and deal doers – known as ‘the industry’ – is in serious trouble. Publishers in the software business are seeing sales and profits plummet while more and more companies are being plunged into the dumper.

The most plausible explanation is that buyers are scoring nice and legal games in pretty packages (price £25) for nice, but illegal games without packaging (price £3).

More money is going astray than the industry dares to think about; piracy is making the big boys very angry indeed.

Now they’re turning on the hated enemy, he who has dodged legislation and thwarted technical obstacles from the very beginning.

But how can piracy be stamped out? Should the industry try a ‘softly softly’ approach, or should it reach for its lawyers? To find out, read on...

THE INDUSTRY STR

Last week, when *Express* readers offered their opinions on piracy, there were convincing arguments and strong words bouncing around these pages. This week some of the most out-spoken and well-placed people in the industry respond.

An angry programmer

“Pirating is obviously wrong and bad. One reason is the price of software, but I know that many pirates do it for the sense of kudos, just so they can say that they cracked such and such a game.”

“We are spending more and more time trying to figure out better protection routines for our games, and therefore we’re spending less time on the games themselves. Piracy is causing a bad product to come out because programmers are spending so much time on protection. Ultimately, of course, it’s a waste of time.”

Would you be a richer man if it weren’t for piracy?

“Of course. I mean we’re OK,

but so many projects only just break even, like our own *Flood*. We’re alright because we’ve got *Populous* to rely on, but other programmers don’t have really successful products to back them up. So many of them are just going to give up and work in another industry.”

“The worst thing, the one that really makes me sick, is when a game appears on a bulletin board before it’s even released. This is a crime of gargantuan proportions. What can you say if you’ve worked hard on something for 18 months, and then see you an unfinished version on a bulletin board? All that work and effort has been poured down the drain.”



* Peter Molyneux: programmer and boss of Bullfrog (*Populous* and *Powermonger*).

But how do these games get out. Surely the corruption must be from within?

“Well yes, I have my suspicions and I believe things are getting worse in that respect.”

“Some magazines insist on reviewing games in advance and

the publisher will sign an exclusive agreement. I’m not saying the mags are corrupt, but disks do get left on tables ... It’s more common among games testers who lend copies to friends and before you know it a pirated version is generally available. We don’t send pre-production copies out. It isn’t worth it.”

Do you fear for the future of home computing?

“I know that many publishers are making a conscious effort to go over to consoles and they’re getting heavily involved with Sega and Nintendo. You can see why. Instead of selling one unit which is copied three times, they know that every copy out there is legitimate.”

“I think consoles are a big threat to home computing and that is a real shame.” ■

The pirate catcher

Can you estimate how much software piracy costs the industry?

“The figure we have is taken from research made last March. We think that in excess of £300 million a year is going astray in the UK alone, and that’s just business software. You can probably add another £20 or £30 million on top of that for leisure software. My two colleagues and I could work full time investigating illegal copying of just leisure software, but that’s impossible. I have to concentrate my efforts on all sections of the industry including new ones such as cartridge piracy.”

Many of our readers believe the price of software prohibits honest purchases. Is this a valid argument?

“Not at all. That is a totally invalid argument. Just ask publishers of budget software – they experience piracy as well. The trouble is that pirates are nothing if not good critics. We find that they will copy any game as long as it is good. The best and most popular games get hit the most. We found copies of the new *Turtles* game on a raid last week, it had only been out a few days.”

How corrupt is the industry itself?

“The industry should be more concerned with what goes on in it. We know that there are some cracking teams who have contacts with programmers, and we know that some publishers still do not fingerprint pre-release products that are sent for evaluation or review...”

“But there is a bigger problem. I share ELSPA’s view that we should be stopping the sale of copying devices. Magazines should stop advertising these products. I have to say that the vast majority of copied games we find have ‘this was



* Bob Hay, Chief executive, The Federation Against Software Theft.

cracked by so and so’ on the game. I don’t think crackers have the skill to do that without copying devices at their disposal.”

But many people feel they should make back-ups of expensive games...

“Nobody has the right to make a back-up of a game. In this country it’s up to the copyright holder, the publisher, to consent to such a thing. You won’t find any games software house that advocates that people need make a back-up. Their position is that they feel that people do not need to make a back-up.”

“If buyers think differently they should be making their case to the publishers. It’s a spurious argument.”

If the publishers are so concerned why don’t they sell games with anti-copying dongles?

“Because dongles are very expensive, sometimes more expensive than the games. I don’t think anyone would like to see the price of games doubling. Publishers would rather use the current forms of protection, which serve some purpose even if it’s a short-lived one.” ■

The anti-piracy campaigner

Roger Bennett, General secretary, Entertainment Leisure Software Publishers Association

Are any of your members in financial trouble as a consequence of piracy?

“Let me just give you an example of one piracy outfit in Glasgow. Until recently it was selling £25,000 worth of pirated software every week. There’s no question that piracy is a major problem. Software publishers are losing anything up to 50 per cent of possible sales because of this, and it’s getting worse.”

Why is it getting worse?

“I think it’s because of the 16-bit price point. It makes it more attractive for pirates and for buyers. Piracy is now at a level that is unprecedented. It’s so simple to crack games and the savings are such that buyers cannot resist.”

“FAST and ELSPA are making tremendous efforts, but it represents big business for major underworld concerns.”

Then why don’t software publishers reduce their prices?

“It’s a vicious circle. It costs a fortune to develop good software, sometimes up to two years in development costs. There’s a lot at stake and that money needs at the very least to be recovered.”

Publishers are finding it difficult to recoup their costs because of the piracy problem that exists. That’s why prices are high.”

Do you have a solution?

“The only way to stop piracy is to work on an unpirateable format. Otherwise it’s impossible. The trouble is that many crackers aren’t in it for the money. They enjoy the challenge. Perhaps the answer is to make it less of a challenge.”

“It’s worth remembering that a lot of piracy is happening on the continent. I know of one publisher which sent a game over to a European magazine for review. Three days later pirated versions of the game were in circulation in Britain. Luckily the company had fingerprinted pre-production copies of the game so we at least knew how it had happened.”

ELSPA has been running anti-piracy advertising campaigns aimed at educating users. Is it working?

“Most definitely, and we’ll be continuing that policy.”

What about programmers within the industry? We know that some turn their talents to dubious activities.

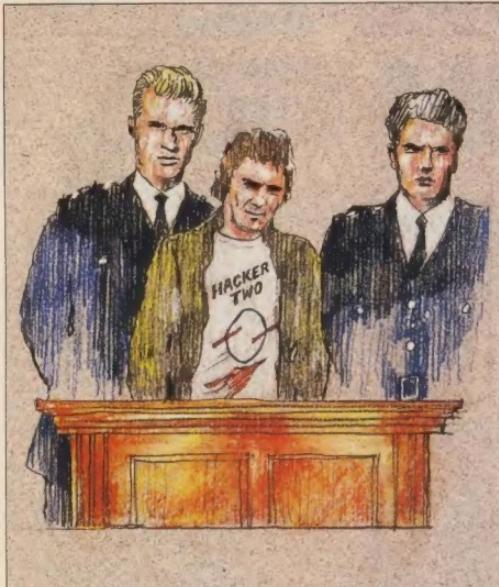
“You might say that. I couldn’t possibly comment.” ■

• ELSPA’s hard line; see page 10.



* From the ELSPA campaign aimed at bringing pirates to justice.

STRIKES BACK



On the front line

Dale Bradford, retailer, Soft Centre, Gwent.

How big a problem is piracy for dealers?

"It's enormous. It can be very disheartening when we see it. I overhear conversations among people in the shop. They'll look at all the new releases on the shelf and say 'Oh, I've got that, got that, got that, and I've had that for ages'."

"I'm selling the same amount of Amiga software as I did a year or 18 months ago, and yet we've sold hundreds of machines. The increase in hardware sales is not showing in software sales."

What can you do about it on an individual basis?

"All we can do is try and educate people that it's wrong. We have to explain that if it continues a machine like the ST, which used to have a good software base, will go the way of XL. Software will just dry up."

Don't people understand what harms the trade harms the consumer?

"Let's be honest here. It's not really going to matter to consumers. It won't hit them in the same way that it does dealers and programmers and publishers. If Amiga owners suddenly decided to buy only pirated games they would see the software dry up. But then they'd just move onto another machine. I'm sure they'd have a moan and say they'd spent all that money on the hardware, but ultimately it won't matter."

What about the back-up devices which are creating such a fuss?

"If I were a publisher I would not advertise my product in any magazine which allows full page ads of these copying devices. It's just not on to advertise a game alongside a product that

can copy the game." If software prices come down, won't piracy be stemmed?"

"Price cuts don't seem likely. For a long time Amiga games were priced at £5 more than ST games - £24.95 and £19.95. At the time I thought that was a bit difficult to justify. But instead of bringing the Amiga prices down £5, many publishers are pushing the ST prices up to the Amiga level. It doesn't really encourage people to buy legitimate software."

Could there be improvements in methods of protection?

"Yes, it all helps. Better protection won't stop the crackers, but it will slow them down. If it takes them a few weeks to crack a game that makes all the difference."

"But I get people coming in returning a faulty game, and the protection code wheel is missing from the box. They'll just say it wasn't there in the first place."

Cartridge based consoles are becoming more popular. Will you be glad to see the back of disk and tape based home computers?

"Many dealers have been pushing the Sega console as an alternative to the Spectrum. It's not only better from a piracy point of view, but we also get less faulty returns with cartridges."

"But that does have its problems. People don't realise that dealers work on reduced profit margins with consoles and cartridges. And their popularity lets in people like Comet and Dixons. They can just sell consoles and cartridges like they sell microwaves. It's all the same to them, there's no need for technical expertise and so there's no need for an independent dealer."

"We're at a crossroads and I just don't know which way to turn." ■

The software publisher

How much is piracy costing US Gold?

"We think it's ten to one. For every game we sell ten are being copied illegally. We know that our games are popular among pirates."

What can you do about it?

"We prosecute whenever we can. Obviously it doesn't get onto News at Ten but we always take action where possible. It doesn't cost us anything."

Doesn't the high price of software encourage piracy?

"That's a ridiculous argument. If something is too expensive that doesn't mean you can go out and steal it. You don't see people stealing lots of designer clothes just because they're expensive."

"Games have to be a certain price because of costs. The cost of development, of advertising and marketing isn't going down, it's going up. Obviously, if we sold ten times as many games as we do then I could bring the price down. It's a vicious circle. Piracy is keeping the prices up."

Aren't there better methods of protection open to you, such as dongles?

"We use code wheels, that's as much as we can do. If we added dongles the price of games would be even higher. Of course the hackers break codes in the end and it slows them down and it acts as a deterrent. It's the 'it's not bothered' factor."

"This might work with those people who are in it for the money, but it makes no difference to those people who enjoy breaking protection at home. For them it's a challenge."

Do you think there are people like programmers, games testers and journalists in this industry who are contributing to the piracy problem?

"That is an absolute fact."

Are these the anti-piracy public education campaigns working?

"I'm not sure about that. I think it would be better to change the name. It's not piracy, it's stealing. Piracy has this image of fun and swashbuckling bravery. But this is just theft."

Consoles and CDs will signal the end of disks and tapes, and therefore of large scale piracy. Are you looking forward to the end of piracy? ■



•Geoff Brown, managing director, US Gold.

"I'm looking forward to the end of piracy, but disk based machines will be here for a long time. There's only so much you can do with a cartridge. You can't run a PC with one for instance. We'll be supporting the traditional formats for a long while. But I am looking forward to the end of piracy." ■

A magazine publisher

Does piracy harm the computer magazine publishers?

"In the long run it will. The theory is that piracy is hitting the software companies who, as a result, make less money. They then have less funds for promoting their products through our magazines. In practice it proves to be more complicated."

Magazines are under fire for allowing the promotion of copying devices. Shouldn't you ban these advertisements?

"There are legal uses for these devices and the legal implications of advertising them is, as yet, unclear. Whilst it's important for us to listen to what any industry has to say, I suspect that, if these are illegal, it's up to



• Greg Ingham, publisher, Future Publishing

the courts to prove that.

"There are countless other areas of similar complexity when it comes to promoting software."

For big piracy news see page 6



• Eliminator: virus destruction.

Official OK for virus protector

Eliminator, the virus protection utility from PC Security has been given a government seal of approval.

The Government Communications Electronics Security Group awarded the program a Level 1 certificate in its Licensed Evaluation Facility tests.

The Eliminator package comprises two programs: Virus Clean and Virus Monitor. The first is a disk scanning utility which recognises and removes viruses. The second is a memory resident utility which checks disks prior to program execution. The bundle is compatible with MS-DOS machines, and a Mac version is being considered. Price is £79. For more information call 0628 890390. ■



• IBM PS/1: extra drive.

The PS/1 inches up

Christie Electronics has just announced the arrival of a 5.25-inch floppy drive for the IBM PS/1.

This is not bad going, as this particular PC lacks any MCA expansion slots. To fit the drive buyers should clip it into chips in the computer. The drive is a standard high-density 5.25-inch floppy which can read and write both ordinary 360K and AT-style 1.2Mb disks. As with any standard drive, it can be treated as a physical or logical unit and will run all standard software which will run from the B: drive.

Price is £249, and the drive will available in the New Year. For more information call 0453 823611. ■

First of many corporate raids for piracy bashers

FAST MOVES IN ON TOP FIRMS

The Federation Against Software Theft has acted against its first major corporation for alleged piracy.

Working in conjunction with the Business Software Alliance, FAST has started legal action against Marconi Instruments - a high-profile company working in top-end communications and with close links to the government.

Four software companies, Ashton-Tate, Lotus, Microsoft and WordPerfect, had obtained authorisation from the High Court in London for an 'Anton Pillar' order, permitting an inspection of the personal computers at two Marconi Instruments plants in Stevenage and St Albans.

Following the raid, legal proceedings were initiated. Simultaneously, the BSA and FAST's French equivalent undertook similar raids on France Distribution Systems and Rhône Poulenot Films.

The BSA says this is just the beginning of a "new wave" of legal actions which will be taken throughout Europe in the next year. A spokesman offered: "The piracy problem is causing the software industry serious damage, and we have therefore decided to move forward on a pan-European basis with co-ordinated action against software piracy in corporations."

Fox Borherhoff Muklder, vice president of BSA and a FAST board member, said: "To

our knowledge this is the first time that the industry has successfully obtained an Anton Pillar order in the UK, which allows us to inspect the computers of a corporate end-user where there is suspected piracy. This is an important step forward in the fight against piracy."

An Anton Pillar order allows a copyright holder to inspect premises without prior warning, thus preventing the destruction of evidence.

FAST estimates that corporate piracy has increased by 100 per cent over the past four years. A recent MORI poll found that 55 per cent of senior managers using PCs had copied software illegally. ■



• Konix chair: could be converted to run with other consoles.

Law suit delays for power chair console

Games players are being denied the chance to play with state-of-the-art peripherals because of a legal battle between a design company and Konix.

Stevenage-based Design 6 was the firm which came up with the game chair which featured so heavily in promotion of Konix's Multisystem games console. However, the games machine, and therefore the chair, have never been made available to the public.

Design 6 was also responsible for the recall action last month, but thought such a gadget would be a hit with gamers, so still in it was launched.

The firm's boss Gordon Cummings explained: "We're involved in litigation with Konix for money they owe us in design fees. But if they don't settle up we'll talk to another hardware manufacturer and release the chair and gun through them."

Design 6 says it will be in a position to make a definite decision at the beginning of January. He said converting the chair or gun to other machines would not pose too many problems. ■

Perestroika on the PC

A new games compilation is to be released for the PC market. This one comes all the way from Moscow.

Perestroika features three games written by Dima Pavlosky, who is touted as "the most talented programmer and thinker in the Moscow centre community of games authors".

The bundle comprises three games: Metal Hearts is a quick-fire arcade game which is said to include elements of logic; Rebel Planets features one key control in an "arcade frenzy"; and Ivan is a maze puzzle game.

The release date and price for the pack has still to be set. For more



• Use peripherals for the A400 (right) in the A3000.

Plug-in power

Owners of the Acorn A3000 no longer need to look jealously at the module collections of their top-end Archimedes owning friends.

Computer hardware manufacturer Wild Vision has designed an expansion box which fits to the back of the A3000 allowing it to run heavy-duty

Archimedes products. The box will take two full width, or three half-width cards. It also comes with a built-in power protection unit.

Price for the expansion box is £139, there is also a special offer which bundles the Hawk V9 colour digitiser as well - this costs £399. For more call 051-519 1495. ■

Soft Sellers hits the hard times

People are being advised to think twice before ordering software from Ipswich-based mail order and retail house Soft Sellers.

The firm is known to be in some difficulties and could be looking at winding-up procedure shortly after Christmas. A spokesman for solicitors Patterson and Thompson commented last week: "Soft Sellers are not in liquidation. Patterson and Thompson is helping the firm's directors with the business. The official liquidator cannot be appointed until a meeting of the creditors, all of whom require two weeks notice. This means that no meeting can be tabled until after Christmas."

Although confusion surrounds the actual details it appears it would be wise not to make any fresh orders.

If you have already made an order and wish to cover your position you should contact Patterson and Thompson at 12 Lower Brook St, Ipswich, Suffolk. ■



• The Leo Sport SC laptop.

New laptop in town

Leo Sport SX is the latest 386SX laptop from Centerprise International. The machine comes with 2MB RAM as standard, with 40MB hard drive and VGA LCD display.

The laptop sports a single 3.5-inch floppy drive, serial and parallel ports. There is also an option to add 2MB of additional RAM and an 80387 math co-processor. Measuring 325mm wide, 315mm deep and 60mm high it weighs in at 4.9kg.

Price is £1,995. For more information call 0344 874 004. ■

Don a Tosh

Japanese electronics monolith Toshiba is to fund a technology centre at Cambridge University to the tune of £600,000.

The head of the centre is Professor Michael Pepper, an expert in advanced microelectronics. This kind of deal is common in Japan and the United States, and is becoming more popular in the UK. ■

Master System and Megadrive to be upgraded in '91

SEGA CONSOLES GET A REVAMP

Sega is planning to launch new versions of both the Sega Master System and the 16-bit Sega Megadrive.

It is understood that the ageing Master System will be phased out in favour of a more compact and attractive model which will resemble the two-year old Megadrive. The new machine will be configured exclusively for European markets and should be here by Easter.

Sega in the United States has already introduced a Master System designed to replace the Master System. However, the Euro Master II will be considerably different. Sega feels that the American version will not appear sufficiently "new tech" for European gamers.

In response to Nintendo's Super Famicom - due for a UK launch late in 1991 - Sega will launch a Super Megadrive. This will feature enhanced graphics



• The Master System (above) is set for an upgrade of Easter. The Megadrive (right) will have to wait longer.



and sound capabilities and will cost about £30 more than the existing Megadrive.

Sega's research and development team have been instructed to ensure that the Super Megadrive is superior to Nintendo's machine. However, that will probably not appear in the UK until 1992.

Both the new Master and Megadrive will be 100 per cent compatible with existing sys-

tems, although software publishers will be encouraged to write enhanced games for the Super Megadrive.

It is hoped that the Super Megadrive will retail at about £180 when it is officially launched. Trade mag CTW was last week speculating that the price of the standard Megadrive will be cut "to below £150" by next autumn.

Nick Alexander, boss of

Sega's official distributor Virgin Mastertronic, confirmed to Express that a new Master System will be here within months. However, he described speculation of an autumn launch for the Super Megadrive as "wishful thinking". "Such a machine is being planned but we find that most Sega products are launched in Japan a year before they reach Europe. As far as I know nothing has been happening there."

He described the Master changes as being "purely cosmetic" and said there would be "no point in offering standard Master owners a cheap upgrade path."

Alexander claims that there are 400,000 users of the Master System in the UK. He said the Megadrive, only launched officially in September, had clocked up sales of 50,000. Grey imports could put the real user base up to 100,000. ■

BLAST OFF ON DISK

The interplanetary exploration probe Voyager did a lot more than appear in Star Trek films. It also sent back thousands of pictures to Earth. These photographs, along with those sent back by Voyager II, have been collated by computer firm MicroInfo, and stored on CD-ROM discs. The first two of these discs are to be released to the public. They will contain images of Uranus, Jupiter, Neptune and Saturn. Planned discs will contain Mars, Venus, Mercury and 'deep space'. ■



• Panasonic scanner: manipulation.

Scan and deliver

Panasonic has introduced a new scanning and image enhancement system for IBM PC compatibles.

Based on the company's flatbed image scanner, the Scan and Edit package includes PC Paintbrush IV Plus which provides scanning, editing, enhancing and image manipulation functions.

Once you have scanned the required image you are then able to use techniques such as blending, smudging, gradients, tinting, and enhanced brightness and contrast. Colour separation, and font incorporation are also available.

Scan and Edit costs £1,195. For more information call 081-864 4422. ■

Window of opportunity

Professor Windows is a new "individual training" for MicroSoft Windows. Running within the MS-Windows environment, the program uses colour graphics, and hands-on interactivity in an attempt to give the user a feel for the operating environment.

According to the publisher, Individual Software, "Professor Windows offers users unique features like hot words, indexes, and icons that identify activities so users can freely select what they learn next or what interactions they perform."

The package will run on any PC, requires Windows 3 and a hard disk, and costs £49.95. For more information call 071-404 3444. ■

PC Pal makes easy reading

A new PC-based literacy package aimed at helping people with reading difficulties to get to grips with the language has been released.

Called Pal (Predictive Adaptive Lexicon), the software was developed at the University of Dundee's Microcomputer Centre and has "produced remarkable results, particularly among students with dyslexia."

Pal is used with word processors - WordStar is recommended, and makes predictions as each letter is typed in to the keyboard. According to Scatlander, the company producing the software, this "reduces the number of keystrokes required for a text document by around a half." The software is also able to learn its user's literary quirks in order to increase its efficiency.

Price is £24.99. For information call 041-357 5034. ■

Can you keep a mega secret?

Sega Mega Drive Secrets is a new book which provides hints and tips, as well as a "parents' guide" to a number of games available on Sega's 16-bit console.

Included in the book are tips to Altered Beast, Space Harrier II, Populous, Dick Tracy, Rambo III and Michael Jackson Moonwalker.

Publisher Kuma plans Sega Mega Drive Secrets to be the first in a series called Secrets of Games. Price is £9.95. Launch is set for early 1991.

For more information call 07457 00373. ■

Organisers claim £10 million sales and 37,000 visitors RECORD ATTENDANCE COMPUTER SHOPPER SHOW

Appalling weather conditions are being blamed on a lower than expected turn-out at the recent Computer Shopper Show at the Wembley Conference Centre.

But despite warnings not to travel on the weekend of the show, the event still managed to attract a record 37,664 people - up 10,000 from the first Shopper Show last year.

Those who managed to make the show were clearly in the mood for recovering their attendance fee in bargains. Buying was at its most frenzied on the many box shifting stands. One company, Diamond, was pushing out imported Sega Megadrives for £99. There were also A500 Amiga hard drives with 2Mb of RAM and leads for £330 including VAT.

In evidence were plenty of squat men sporting Fred Perry's and Essex accents, all frantically shifting boxes and grasping wads of money. The buyers weren't complaining.

Those people who had come to buy a Christmas computer mostly left with either an Amiga,



* Frozen queues: but most thought it worth the wait.

ST or a Megadrive. Peripheral hunters seemed to be most attracted to Philips monitors, colour printers, external disk drives and hard disks.

For younger shoppers there was an arcade hall as well as Gameboy and Amstrad GX4000 booths. Software sellers with stocks of the Turtles game were engulfed by hordes of grasping pre-pubescent boys. Good prices on games ensured brisk business for anyone who set up shop.

Organiser Blenheim Database

is reckoning on £10 million in sales across the show. Boss Michael Meakin said: "The only thing that let us down was the weather and we can't be held accountable for that. Even all the snow and ice, coupled with warnings not to travel, didn't put the buying public off."

Nevertheless, on a grim Saturday afternoon visitors were advised to make sure they could get home safely, after which the crowds subsided considerably. The box shifters went to bed on



* Box shifters' heaven: buyers were spending big money.

Saturday night in an unpleasant mood, but seem to have been satisfied with a better than expected Sunday.

PC manufacturer Multiplex claimed to have done £500,000 worth of business. "It was the most successful show we've ever attended," beamed chairman Charles Forsyth.

There will be another, smaller Shopper Show at Alexander Palace in the spring, with the main Christmas event back at Wembley next December. ■

As memorable as a bowl of porridge

A survey published by Marketing magazine recently placed television adverts for the Atari Lynx handheld game machine at the top of prompted "recall" charts for a consumer electronics product.

One thousand people over the age of 15 years were questioned as to which advert they most remembered... The Lynx came in as memorable as Ready Brek. A prompted recall survey means that a number of names are given to the interviewees from which they have to say which they remember most.

The Lynx's showing bodies well for three new games which have just been released for the machine. Ms Pac-Man, the latest in the cult of Pac-Man, which attracted mixed reviews in the 16-bit market, and Road Blasters, the post-nuclear drive-'em-up are all available now for £29.99 each.

A new game called Zarler Mercenary is also in the pipeline. It is said to be a "futuristic space adventure." ■



* Ms Pac-Man: lynx profile.

Can the KGB help you?

Now you don't have to stand in freezing subway stations trying to remember long passwords to make the most of the Soviet secret service. After decades of secrecy, the KGB's massive database is open to all comers.

A Soviet state security committee spokesman recently announced that various agencies within the country had been using the secret police's data gathering and retrieval facilities in order to check up on competition in the business world. This is now to be extended to companies in the West.

Although prices or details of what kind of information could be downloaded were not given, a telephone number was. So, if you wish to make use of one of the biggest spying and counter-intelligence organisations in the world, you should call Moscow +7 095 921 0762. ■

ors despite bad weather

ANCE FOR PER SHOW



Brisk business as Christmas shoppers pick up bargains.

Dixons docked for Z88 ad blunder

The Advertising Standards Authority has upheld a complaint made against the Dixons retail chain regarding an advert which featured the line: "Cambridge Z88; clearance price £79".

The person who lodged the complaint reported that they had "phoned all of Dixons' branches in Devon and Cornwall only to be told that none of the stores stocked the item and that they should look elsewhere."

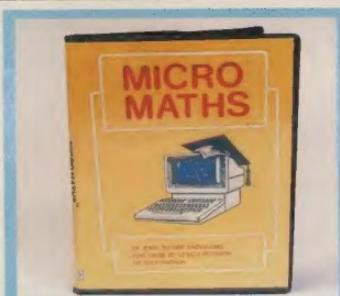
In defence, Dixons gave details of various stores in the area which did stock the bargain priced portable. The store was unable to explain away the telephone conversations and that they should look elsewhere.

With Dixons being "requested to ensure that all branches are fully conversant with the terms of such offers..."



Dixons: slap on the wrist.

The penalty at the end of the inquiry was a slap on the wrist.



**Micro Maths: not much fun, but what do you expect from mathematics?*

Your number's up

Studio Speccy Plus 3 owners are to be offered a "complete GCSE mathematical course" called Micro Maths.

The program features all topics common to examination boards including such leveling as algebraic equations, polygon properties, trigonometry, indices, vectors, matrices, triangles and "much more".

Publisher LCL reckons such educational programs will persuade parents to invest in the Spectrum, which is used by most people as a games machine. Micro Maths is also available for the cassette based Spectrum Plus 2 as well as the C64, ST, BBC, CPC, PCW, PC, Archie and Electron. Call 0491 579345. ■

Student hacks make Mac impact

Computer publishing whiz-kids at a Lancashire College have produced the first full-colour paper to be entered into the NUS student newspaper of the year contest. The publication was produced on the Macintosh.

The tabloid paper was put together using the DTP package PageMaker 2.0 for Apple Macintosh SEs outputting to a Linotronic 100 and printed on the local paper's printing presses.

Editor Zaffer Khan said: "The

first time I worked on a college publication two years ago we typed it and pasted it onto paper which we then duplicated. Now we've been trained on the Macintosh we have the technology to do things professionally. We believe *The Mediator* is the first full-colour student paper in the country. Certainly people I've spoken to like staff on the Manchester University paper, *The Mancunian*, say they've never seen a full-colour student paper. In fact they asked us to send them a copy."

In at the DTP end

A new series of desktop publishing systems based on 386, 386SX, 325 and 486 PCs has been launched by Cardiff-based Osicam Technologies.

A basic unit, the Executive SL, comprises a 386SX PC with 40Mb hard drive, 14 inch super-VGA monochrome monitor and costs £1,295. The top of the range unit is the uses a 386/25 PC with 80Mb hard drive, 1Mb 8514/A graphics card, and 21 inch colour monitor - price is £4185. IDE intelligent hard disks allow storage up to 150MBs to be fitted to any Osicam system.

Software available to the systems includes PageMaker and Ventura. For more information call 0222 778888. ■



Low cost DTP: Page Osicam.

The worm turns

Robert J Morris Jr, the man convicted of unleashing the Worm virus which swept through thousands of computer systems in 1988, is appealing against his conviction.

Morris, a former student of highly rated Cornell University, was sentenced to three years probation, 400 hours community service and a £10,000 fine for his crime. However, his lawyer is arguing that Morris did not "intend damage". The American attorney is also claiming that "the law under which Morris was prosecuted is not a computer virus law and, in my judgement, does not cover the activities for which he was convicted."

The US Court of Appeals is currently considering these arguments before returning with a final ruling. ■

OS/2 chums go on-line

Users of the OS/2 operating system can rest easy in the knowledge that their long years of loneliness and solitary misery are finally over.

The OS/2 User Group, along with IBM and Microsoft, has set up an online bulletin board in order to bring users closer together.

Jim Watt, chairman of the group eagerly commented: "With IBM and Microsoft's help we have been able to meet our members needs for up to the minute news on OS/2 issues. Already the demand has been overwhelming."

The bulletin board has 100Mb of data just for OS/2 users, as well as files from around the world. Details are available on 0285 655888. ■

THE WEEK IN VIEW

A warning to all software pirates: YOU WILL BE CAUGHT! Roger Bennett, ELSPA general secretary, tells you to stop now while you stand a chance.

I have been told by a number of people that they think software prices are too high. Of course they aren't everything? Entertainment software prices are nonetheless probably artificially high.

To redress the very substantial development costs involved, in a market where piracy causes substantial loss of revenue, software publishers, of necessity, have to charge more than they would wish to do.

In short, the greater the piracy, the higher the cost! It is an ever spiralling situation, with the only solution being the elimination of pirating through protection on the program and traceable 'finger printing'. The latter has already been successful in establishing the source of a pirating ring. Equally, ourselves and FAST through close co-operation are making every effort to bring law breakers to book.

The law is quite clear. Section 16 of the Copyright Designs and Patents Act states that "to copy a work is the exclusive right of the copyright owner". Therefore without written permission from the software publisher it is a criminal offence to copy or 'pirate' software. ELSPA together with FAST are doing all they can to discourage the practice by catching and prosecuting those who infringe the law, while making it as difficult as possible for anyone to obtain copying devices through advertisements placed in computer entertainment magazines.

Back-up devices are seen to fall into an illegal category now that software publishers are making it clear on

the product that it is illegal to back-up as well as copy. We would hope that it will very soon be impossible to find any back-up device advertisements within the computer entertainment press. Many magazines have already agreed to co-operate.

We do take our responsibilities extremely seriously at ELSPA, and our confidential 'Piracy hotline' (0386 833501) is constantly available to anyone who wishes to pass on information about anyone known to be pirating software. We are getting a growing number of genuine calls on this line which we are following through. However, we need evidence to be confident of a successful conviction. Alternatively, we can be written to at the address given at the end of this column.

Readers may perhaps have noted that there is a series of advertisements in cartoon style running in most magazines, which highlights the fact that ELSPA will provide a £1,000 reward for information which leads to a conviction. It seems quite possible that the first payment will shortly be made as a result of information received through the 'hotline'. There is now a strong chance that you will get caught if you are illegally copying software. You have been warned.

If you want the opportunity of buying original high quality software at reduced prices then help us catch those people who are breaking the law. ■

• ELSPA can be contacted at: Arden Mill, North Littleton, Nr Evesham, Worcs WR11 5QP.

Hey! Get in touch with us! Express is always on the look out for news leads and tip-offs - and we'll pay you for passing them on too!

Also, if you have any burning ideas for features or surveys then drop us a line - remember, we cover every aspect of computing.

You can contact us directly on:
Voice : 0225 442244
Fax : 0225 446916
(All news leads and tip offs will be treated in strictest confidence)

Or you can leave E-Mail for us on:
CIX @ astor
GOLD @ 640TX152
COMPUSERVE @ 100012, 1075
PRESTEL @ P McDonald

Express Access

COMING A WEEK ON THURSDAY

Maximum Potential
The definitive Express guide to making the most of your machine

Broken by Boxing Day?

A Tech Tips' timely guide to resurrecting the dead the fastest way possible

Crystal gazing
What will be the launches and events dominating the coming year?

PLUS

- Hot news
- Front End
- Games Week
- The Console Zone
- Whole Wired World
 - Centrefold
 - Tech Tips
 - Circuit City
- Express On-line
- Express Mail
- The PD Column
- Programming
- Columns for: Amiga, Arc, CPC, C64, Macintosh, PC, Spectrum and ST

AND

Your chance to win a state-of-the-art Laptop

AT YOUR NEWSAGENT ON THE 3rd

COMPUTER EXPRESS
NEW

EDITOR • Andy Storey
DEPUTY EDITOR • Stuart Anderton
NEWS EDITOR • Colin Campbell
TECHNICAL EDITOR • Keith Pomfret
STAFF WRITER • Tim Smith
EDITORIAL ASSISTANT • Dave Golder
PRODUCTION EDITOR • Julie Tolley
ART EDITOR • Amanda Cook
ART ASSISTANT • Matthew Williams
SUB-EDITOR • Ian Pemble
CONTRIBUTORS:
Steve Carey • Robin Alway • Jason Holborn • Rod Lawton • Hadyn Williams • Mark Higham • Adam Waring • Richard Frederick • Sean Masterson • Ken Coumari • Steve Gold • Mary Branscombe • Ian Wrigley
CIRCULATION DIRECTOR • Sue Hartley
ADVERTISEMENT MANAGER • Helen Kirkhope
AD EXECUTIVES:
Tim Partridge • Cheryl Beesley
AD PRODUCTION Tracy O'Donnell • Frances Wasem
AD TYPESetting • Terry Turner
PUBLISHER • Graeme Kidd
ASSISTANT PUBLISHER • Jane Richardson

ABC audited circulation
January-June 1990:
21,251 copies per week

We regret we cannot enter into any personal correspondence. Technical enquiries should be addressed to Tech Tips at the address below.

While every care is taken in the preparation of *New Computer Express*, Future Publishing cannot be held responsible for the consequences of any errors that may occur.

© Future Publishing Ltd • 30 Monmouth Street, Bath BA1 2BW • Tel: 0225 442244 • Fax: 0225 446019 • Subscriptions: The Old Barn, Somerton, Somerset (0458) 74011

• Printed by Redwood Press, Melksham, Wilts
• Distributed in UK and Eire by MMC Ltd (0483 211222), rest of world by Comag (0895 444055)

NEW

Commodore B-E-A-U-T-Y-S

AMIGA 500



SCREEN GEMS II

The only NEW
Official Amiga A500 pack
from Commodore!

Amiga A500 Computer Keyboard
512K Random Access Memory
Built-In 1 meg double-sided disk drive
Superb 4096 Colour Graphics
4 Channel Digital Stereo Sound
Speech Synthesis
Multi-Tasking Operating System
Kickstart 1.3 and Workbench 1.3
Three Owners Manuals
Extras 1.3 and Tutorial Disk
Amiga BASIC Programming Language
Notepad Mini Word Processor
Commodore Mouse
Power Supply Unit with mains plug
TV Modulator
and all connecting cables to get you up and running in your home TV set.

Shadow of the Beast II
Days of Thunder
Back to the Future II
Night Breed
Deluxe Paint II Art Package

**Microprose Software
RVF Honda
Kid Gloves
Datastorm
Dungeon Quest
Micromatchers**

Grand Monster
Powerplay
Tower of Babel
Shufflepuck City
E-Motion
Mouse Mat

F-19 Stealth Fighter

The Ultimate Flight Simulation game from Microsoft worth £34.99

Total package price includes VAT and Next Day Delivery by Courier*
Don't delay - Order now! 24 Hour Credit Card Hotline Telephone (0908) 378008

卷之三

As a result, we can now offer
clients in our offices, telephone
and fax and mail box and
expedite delivery with the
instantaneous printouts.
Contact us to learn about VISA
or MASTERCARD.

Buy online, on the phone,
by fax or by post, direct
to your local computer
supplier. We'll even send
you a personal cheque.
Bankers draft, money order,
cheque or postal order made
payable to: **TELE-IT LTD**
COMPUTERFAIR HYVAC LTD
Please quote item no.
and quantity required. If
you require delivery
please advise.

ing & writing for our latest Amiga catalogue listing hundreds of products available for this versatile Home Computer. We stock COLOUR PRINTERS, STEREO-COLOUR MONITORS, EXTERNAL DISK DRIVES, MEMORY EXPANSIONS, HARD DISK DRIVES, AMIGA BOOKS, FRAME GRABBERS, DIGITISERS, SCANNERS, WORD PROCESSORS, DATABASES, SPREADSHEETS, ACCESSORIES and of course hundreds & hundreds of games and all well recommended retail price.

Digicom offer you the very best in customer after sales support with 12 month warranty on all Computer Hardware. All units are full UK specification with 30 day replacement guarantee on faulty items and FREE collection of the defective units within this period. And should you ever need any technical advice our experienced and helpful staff are available on the telephone or in our showroom. Remember... there are no hidden extras all prices are fully inclusive of VAT and next day delivery.

only.....

£399

DIGICOM

36-37 Wharfside Watling Street

Fenny Stratford Milton Keynes MK2 2AZ

Telephone (0908) 378008 - Fax (0908) 379700

Showroom Hours - Mon to Sat

9.00am-5.30pm

■ No excuses

I bet Kopile goes around and kicks postmen's heads in to see if there is any cash in the mail. Or maybe he just kills old grannies to get at their pension books. It's just the same, isn't it? (Not quite - *if F-W*) What he is doing is stealing - not from the big software company though, but from the individual programmer. The one who has spent almost six months of his life putting numbers into a machine for absolutely nothing because people like Kopile just get a pirated copy of his game. It's wrong, and there are no excuses for it.

Aza, Huntington, Cambridgeshire.

■ Firebreathing

I read with growing anger the immature rantings from Messrs 'Computer Freak' and 'The Kopile' in *Express 103*. This letter is not in reply to theirs, but to the paragraph you added beneath - great stuff!

Almost all computer literature I read contains letters like those from the aforementioned, but I read with delight the reply you gave and feel a sense of relief that someone has had the guts to breath fire on these naive morons. Keep it up.

The absolute claptap about piracy not being linked to poor sales almost made me rip my copy of *Express* in half. I hope they read this letter, even if it does mean going to an adult to ask what the long words mean.

D. W. Chelmsford.

Glad you liked our illustrious Editor's attitude, DW.

H F-W

■ Flawed reasoning?

The letters from those ST pirates raise some important points. First things first,



crackers do not gain financially from their activities. Cracking protection is done for the challenge and notoriety, nothing more. Despite your condemnation of crackers' clandestine activities, I feel your arguments are fundamentally flawed for the following reasons:

- 1) Software houses do not financially lose if all I can spend on software is £20 per week and I still copy games. Anything I copy is something I couldn't have bought anyway, so who loses?
- 2) Many crackers have contacts in software houses. *Rainbow Islands* was on all the networks a good five months before it was released commercially.
- 3) Your magazine often advertises 'backup' devices. These hardware-based devices are specifically designed to make an exact copy of the source disk. They

have legitimate uses! I hear you say. Oh yeah! And my neighbour uses his 3.01 24 valve Senator to accelerate from 0-70 mph as quickly as possible and then stays at 70, never breaking the speed limit.

- 4) Most crackers become commercial programmers and are intelligent people. If your prognostications concerning the demise of the software industry due to cracking are true, then why would they jeopardise their own future employment? P Mallabar, Gateshead.

1) And I suppose the sweetshop on the corner of your street doesn't lose if you nick the sweets you can't afford within your weekly sweetie budget?

- 2) Software houses do sometimes release versions of upcoming games onto the cracker/pirate network to get

publicity for a forthcoming release in much the same way as they put demos on the coverdiscs that accompany *Amiga Format* and *ST Format*.

- 3) Gunsmiths advertise and sell shotguns, car manufacturers produce and sell performance cars. Some people use them within the bounds of the law, others break the law with them. Should the law-abiding customers be denied the benefits of products just because the law-breakers misuse them? I think not.
- 4) 'Illogical Captain' So these 'reformed crackers' continue to distribute free versions of their own games when they become commercial programmers and are in line for royalties on sales?

H F-W

■ 'Interesting points'

'Kopile' is clearly a sad, pathetic, semi-illiterate dickhead, but your argument against his almost-coherent views on piracy has a hole in it so big you could drive a train through it sideways. You 'admit there are only half-a-dozen games released each year worth buying'. This raises a number of interesting points.

- 1) How is an ordinary game-buyer supposed to discover which are these half-dozen? Reviews in magazines are frequently contradictory, always subjective and, therefore, no reliable guide. Unless you are one of a small minority with a friendly, local specialist shop, the chances of getting to see a game before you buy it are almost nil. Have you ever tried getting WH Smith to loan up a game for you to look at?

2) Perhaps you think it's reasonable for game-buyers to have to shell out £20 plus for standard product, just to find out that it'll be substandard? This strikes me as not only stupid, but immoral.

- 3) Alternatively, if there are only half a dozen games worth buying then the other ones aren't going to be bought anyway. So if someone does pirate them, what bloody difference does it make? If you weren't going to buy it anyway the software company isn't losing any money.

- 4) The 'games' are only so expensive

■ Dongles dangled as anti-piracy device - but can they work?

Whilst browsing through the games in W H Smith's one furnitche I came across a cricket game which appeared to require a dongle to make it run, and I thought that this might be a good idea for software houses that want to reduce piracy.

The use of a dongle would make it possible to create back up copies of the game or program that you were using, and thus keep the original in a safe place, but it would stop people from making copies for their friends because the copies wouldn't work without the all-important dongle.

As about 30 per cent of all pirated games are those circulated by 'playground pirates' or 'college copiers' then this would force anyone wanting to play a game or use a serious program to go out and buy it. The professional pirates would also be hit as they would then have to invest in the machinery necessary to make the dongle and produce a different one for each game or program, pushing up costs and making their copies uneconomic.

The resulting increase in sales

would mean increased profits for the software houses, which could then reduce the price of the program and increase sales further, which in turn would mean ... Well it would be nice if it did happen that way.

P J R Mead, Wallington, Surrey

What a pair of nutters those two pirates in *Express 103* were! Sorry boys, but given the chance I would give your address to FAST. Having spent over £800 on my Amiga I'm not letting you make my computer obsolete because software houses won't support it.

I am surprised that the big software houses have not got together and designed a hardware add-on unit between them. The interface should be available cheaply to consumers and could be based on smart cards - the smart card would hold all the protection information and would be given with the disks. Without the card inserted, the program would not work. The initial cost of hardware could be recovered quickly by the much-increased sales of software.



This should eventually make top software cheaper!

James Mason, Ontario, Canada.

Hmm. A few companies have tried to use dongles with games, but they never really worked. Either the cost of the extra hardware made the game too expensive, or the protection system was evaded by crackers who produced a new version of the game code that would run without the dongle device being present.

But if you think about it, cartridge games are effectively their own dongle - which is why software publishers are so keen on them!

H F-W

MAIL SHORTS

because of piracy' myth is such an ancient and discredited one that it beggars belief that anyone is still clinging to it. How come console games cost £30 a time then? They're virtually impossible to pirate and, certainly in the case of the 8-bit consoles, much less sophisticated than the average ST/Amiga game. The truth is that games are priced at whatever the market will bear. Surely you can't believe that if piracy was wiped out tomorrow, all software houses would suddenly knock a tenner off their prices in a fit of pan-corporate generosity? The opposite is more likely to be the case.

Karen Eliot, Edinburgh

But how many people go out and buy a copy of a bloody good game that they first got as a pirated copy?

H F-W

■ Copy wrong?

Doesn't it seem strange that this crusade against piracy, be it in hardware or software, is in danger of getting out of hand? Coming down on a mere copier of someone else's work is one thing; subjecting to the same treatment one who modifies, rearranges, even improves the original is something quite different, since you cannot reasonably maintain that the resulting product is a 'copy'. It makes nonsense of the whole concept of an 'industry standard' to do so.

Two things one must hope for in the current state of affairs: one is that Lotus, and all other like-minded corporate bullyboys, discover that their recent victory over Paperback Software International is of short duration: that it does not get echoed in legal decisions over here, and that Borland turn out to be tougher than Lotus anticipated, and Lotus end up losing!

The second? That a proposal now before the European Parliament, currently backed by IBM, Apple, DEC, and Siemens, and aimed at making not only 'reverse engineering' illegal but even software analysis meets with similar crushing defeat.

Copyright must be severely limited to covering the making of mere copies of either hardware or software. It must not be allowed to cover add-ons, compatibilities, expansions, or anything else of the kind. Since not even IBM can succeed in producing configurations that suit every customer's taste, it is strange that Atari has apparently said, in effect, that may now buy an STE, but only if we reconcile ourselves to buying a bigger machine if we want to upgrade! Did they stop and think before embarking on this course?

Barry Gowland, Newport Pagnell

I'm sure they did

H F-W

■ Spoof of the pudding

You may be relieved to know that, although I intended to chip into the piracy debate with a spoof pro-piracy letter under the pen-name of "Wayne Kerr", I decided in the end not to do so. Partly because it would have been difficult for any letter to have been sillier than most of the

real pro-piracy opinions floating around; for example, how can programmers possibly "pirate" their own work, as one prize twit stated? This is yet another example of the confusion between back-up, which is legitimate (are you reading this *ELSPA*) and piracy, which is anything but.

Robert J Baker, London

Thanks for not sending the spoo! Robert

H F-W

■ Foul language

This letter is aimed at the foul mouthed humanoid 'The Kopite of G Force'.

Why is it that you feel the only way to put over your point is through the use of bad language? To some extent I do agree with you. I myself use some plain software but to say that it is only in the search for a worthwhile game to purchase is ridiculous.

On speaking to my father, who happens to be a psychiatrist, he assures me that your common use of profanity probably stems from your upbringing and over the years has developed into a neurological disorder. Kindly keep your profanity to yourself and others like you.

Ozz'

■ Muggers not pirates

Speaking as a programmer I find it astonishing that you can begin to debate a subject which is so obviously an open and shut case. Pirates, and that name gives them far too much of a romantic image - muggers would be a more appropriate phrase - have no rights legally, morally or ethically. This means that they have no valid voice in any kind of rational discussion.

Intellectual property should be as invisible as personal property, bricks and mortar. I mean, you would not start a debate about burglary and allow burglars to air their views now would you? So why give over perfectly good pages to these scum and their vacuous arguments? There is no reason, and if you ask me they are encouraging them by giving them a forum.

By allowing them a nationwide voice you are giving them credit, and by letting them credit you are setting them up as role models for other, younger and more impressionable people to look up to and eventually to emulate as computer terrorists.

I work long and hard trying to produce original code. As I am not tied to any software house, I have to market my wares as well. This is a 24 hours a day, 365 day a year job - and I doubt that any of the software muggers in your pages have the slightest idea what a minute's work is. The more I write about this, the more Irate I become. So, in future when you receive letters from this type of person, why not just send their details to FAST and have done with it.

S S, Cardiff

It is well known what the stand of Express is on the subject of piracy. We do not condone it in any way. It is also a function of any journal worth its salt to

allow its readers to make their voices heard. If someone writes to us freely admitting that they regularly pirate software then we certainly will forward their details to the relevant authority. The job of a debate is to put various arguments in order to divine the stronger from the weaker - and that's ethically and morally. By the way, most of the pirates who write in have condemned themselves from their own arguments, see the next letter....

H F-W

■ A point pointless

Wheeing, moaning software houses and the pathetic little mummy's boys who work for them are asking for everything they get. I'm not scared of FAST or anyone else. If there's a game which I think I could have done better, then I'll crack it wide open, and I don't need some 'crew' to back me up.

It's nothing to do with the challenge or the skill - I know how skilled I am which is very, the most - it's to do with the fact that I can make money out of doing it. My mates don't want to pay out 30 quid for a game when they can get it from me for £15. And I'm sure as s**t I'm going to give them away.

The Replicant, Here

This is the kind of mindless, machismo which destroys any argument which could be made in your favour. Please write again with your proper name and address, if you're really not afraid of FAST.

H F-W

■ Rough and ready

I have nothing but sympathy for people who point out that computer games are grossly over-priced. In my opinion, they are. But instead of going out and plating them, I simply stopped playing, and buying them. I decided instead to try and learn to program. Being on the bad side of 65 I have the time to do so on my Amiga 500.

I can quite see how people who have learnt to program might want to show off their skills. Especially young people. I don't know anything about all of this conspiracy theory about software houses not treating programmers well so I won't comment on it.

The one major point which really saddens me is that people who have learnt a new language and a new skill should feel that they have to turn their knowledge to the wrong side of the fence as it were. Why is this, and what can be done to change their views? Surely if these energetic and intelligent (programming is not easy after all) people started up their own companies or simply wrote games we would have a lot more software; and it would be cheaper.

Alan Amorey, Crowthorne, Berks

The points you make are laudable. It is certainly sadder that people do not turn their skills to more constructive purposes.

H F-W

■ A matter of record

Once when I had some ST peripherals to sell I got replies from people offering to sell me pirated software. Had I had FAST's number (this happened before I saw their ad) I would have reported them.

Darryl Boulton, Ross-on-Wye

The new hotline for reporting incidents of games piracy is 0386 833501, Daryl.

H F-W

■ Short, sweet & stupid

I think pirates suck like a radical vacuum cleaner!

Teenage Mutant Ninja Intellectual, Tyne and Wear.

■ Young fool

You asked for interesting points for your piracy debate. I thought of the following: If you're done by FAST do you get a Software Lawbreaker's Official Writ? (SLOW - geddit??)

I wouldn't get one, because I'm only 15 so I can copy what I like.

Dale Cooper, Northbourne, Dorset

You might have a nasty surprise coming your way, Dale. At fifteen you can be held responsible for some of your illegal actions.

H F-W

■ Art critic

Here's an analogy to consider: when Marcel Duchamp painted a moustache on Leonardo's Mona Lisa was he making a legitimate add-on or merely copying another person's original work?

Melvyn Barg, Lewisham

Who knows?

H F-W

■ A twit twitters

I'm not a pirate but I think that those people who have the skills, and the tenacity to work for days on end in order to uncover the secrets of other people's code deserve some respect.

Thomas Ralph, Kirkcudbright

And Ron and Reg Kray were skilled boxers who should be admired for turning their abilities to dodgy ends?

H F-W

■ And finally

Piracy is theft. Plagiarism is mediocrity. And copying is the highest form of flattery? Surely we should be told.

M F Cripps, Stowmarket

■ Lost in the post

Bit of a cock-up on the crisp fivers front I'm afraid. If Fred Baptiste and Daniel Wood would like to get in contact with their addresses, I will know where to send the loot.

H F-W

JANUARY

January was very much Atari's month for hitting the headlines, largely for the wrong reasons. Buyers of STs were finding not the STFM they had expected but an upgraded STE, with enhanced sound and graphics. This would have been great, except the STE didn't run many existing ST games. Atari put the blame firmly on the games writers for breaking the rules - cold comfort for the buyers. On a brighter note the Lynx colour handheld finally arrived in Britain, to a rapturous welcome.

January also saw the first news break of the Amiga-based CD-ROM computer-cum-home-entertainment-centre the CDTV - although the name was still not known then. We are still waiting to see the machine, although it is promised real soon now.

Two machines which did see the light of day (although yet to be officially imported) were the Turbo Express and the Super GrafX. The first was a hand-held version of NEC's PC Engine console, playing the same cartridges as its house-bound brother; the Turbo GrafX was an upgrade of the PC Engine offering more colours, more sprites and more exciting gameplay.

Other headlines:

Rights row halts CPC464 upgrades

Amstrad and Locomotive banned the sale of upgrade ROMs

Mind micro on sale in States

The 'brain-altering' MC2 machine was launched

FEBRUARY

February was Amstrad's month for making the front page. One week Express was exclusively revealing the imminent launch of a new range of PC-compatible portables and the PC3000 series, and only seven days later our front page screamed: "EXCLUSIVE: Autumn Launch for CPC Trio", heralding the CPC Plus range and the GX4000 games console. A spokesman said: "I haven't heard of any of these machines" but come the autumn they turned up on schedule.

Commodore wasn't idle last winter either: the super-powered Amiga 3000 got its first outing at the Paris Holiday Inn, being billed as the multimedia Amiga. Its 25MHz 68030 chip left the competition standing.

On a smaller scale the SAM Coupé finally became a functioning computer with the overdue arrival of the floppy disk drive - but it didn't have a working DOS; unfortunately it had already missed the boat.

Politics seized the computing headlines for a while in February as two Tory MPs fought it out over the wording of anti-hacking legislation. Michael Colvin wanted his bill to be sure of passing the Commons, so he rejected Emma Nicholson's more hard-line ideas. The Computer Misuse Act was passed in the summer.

Other headlines:

Computer monitors in radiation shock

New research showed dangers in TV screens

The world's first laser processor

AT&T made a breakthrough in optical computing.



• Sam Coupé: great expectations but the DOS don't work

1990: HOW

We take a look back at a year that saw, if not a revolution in the computer industry, a few turn-ups for the Express at least ...

MARCH

Atari came to the fore in a series of stories concerning new products and, more worryingly, staff redundancies. Atari lost one in seven of its US employees, despite predicting a good year for profits. The firm's boss Sam Tramell suggested a hand-held ST was on the cards, but the idea seems to have sunk without trace. Rumours of a CD-ST picked up, but Atari didn't seem sure on the possibility of a machine to rival the CDTV.

Atari did score one notable success in March - the launch of its still-current bundles, including the cheap STFM Discovery pack, which went on to be huge sellers. Also bundling away were Commodore with the short-lived Flights of Fancy pack.

Hand-helds were the order of the month in Japan where Sony showed a hand-held electronic book called the PalmTop, and Sega's GameGear colour games console became another Express exclusive.

On the home front the SAM Coupé's DOS finally was sent out and Miles Gordon put up a £20,000 prize for the best use of its problem-plagued baby.



• The Commodore CDTV: much promised, long awaited.

Other headlines:

Breakthrough for 'listening micro'

A PC-based speech recognition system - bespoke?

Hot line targets corporate pirates

FAST launches an 0800 number for piracy tip offs

APRIL

A quiet month for news with no major launches - although rumours of an Amiga portable were rife. Education took centre stage as Commodore and Acon produced bundles aimed at parents looking for a computer to help their children learn. Both the Amiga Class of the '90s and Archimedes Learning Curve packs met with considerable success.

Less fortunate was the SAM Coupé: they got the completed machine into the shops only to find a bug in the ROMs, which forced the recall of all Coupés to have their chips replaced. Also getting some negative press was Atari, whose Taiwanese branch was accused of software piracy - Jack Tramell complained of "time and effort wasted" in investigating his firm.

The major arrival was LocoScript PC, the IBM-compatible version of the PCW's word processor. Its repeated delays had become something of an industry joke, but the program clocked up some serious sales.

The Neo-Geo super console took a step closer to



• Stepping closer to the UK, the Neo-Geo super console

Britain as the newly-appointed UK distributor began to look into possible rental schemes for its potential product.

Other headlines:

Official World Cup game kicks off

The first cuckoo of spring...

Survey shows average PC costs £2,000

Prices tumbled throughout the year

MAY

The future of computing took a step towards reality as Philips' CD-i machine was unveiled. This remarkable machine combined an interactive CD player with a computer, to make a multimedia machine capable of superb graphics and sound. The example Philips showed was a golf game where the player and backdrops were real photographs rather than drawings. The truly amazing thing about the CD-i system however was the price - it predicted £700 when it arrives in the UK in 1991.

Another futuristic unit to surface was the Canon all-in-one business machine, the S-2000, which combined a PC, printer, fax machine, answering machine and telephone in one small box.

Rumours began of a notebook Macintosh - an idea which has come closer to fruition since. Another Apple story was the launch of the low-cost Macs - we predicted a modular colour Mac with built-in video, sound



• The Philips CD-i: even the price is right

WAS IT FOR YOU?

input, an Apple II emulator card and a 68020 chip at under £2,000; the LC to a TI.

The SAM Coupé made the headlines again when MGT decided to get the users to change the faulty ROM chips rather than doing a factory recall.

Other headlines:

Computers unsafe for critical tasks

An Australian report claimed computers were unreliable.

Data act in court test

The first companies were prosecuted under the Data Protection act.

JUNE

Commodore's CDTV finally surfaced in the summer – but not before a Sanyo CD Amiga prototype had been revealed in Japan. The big news was Miles Gordon Technology, maker of the SAM Coupé, going into receivership. The firm was bullish about its chances of selling the SAM, but six months on no buyer has been found.

Sony took miniaturisation to new extremes with the CD1 Entertainment Station – a ghetto-blasters style machine with a colour screen and a CD drive. The CD-ROM Discman was even smaller, fitting comfortably in the palm of your hand. The end of the paper book?

In the PC world Microsoft launched its revolutionary Windows 3, finally removing the 640K memory limit of PCs and allowing multi-tasking. It sold by the thousand.

Atari got itself into a muddle with president Sam Trameil announcing a CD-ST for 1991 at the same time as Atari's UK boss was dismissing the technology as 'immature' and denying a CD-ST would ever exist. Meanwhile a UK importer began to bring in Fujitsu's FM Towns PC with its built-in CD-ROM drives.

Other headlines:

Mad hacker locked up for three months

Nicholas Whiteley became the first hacker to be jailed.

Half UK companies rip off software

Naughty, naughty...



* IBM's PS/1: the first personal computer.

JULY

IBM took the plunge and launched a truly personal personal computer – the PS/1. IBM has a dodgy record when it comes to low-cost machines and the machine was soon slammed for its low-tech specification.

In Japan details of Nintendo's 16-bit Super Famicom leaked – Express ran the first UK pictures of the machine. Now an official product, it looks like the console to watch.



* Atari's TT workstation gets a boost to 32MHz.

Atari overtook Commodore in the high tech stakes when it announced a 32MHz version of its TT workstation; not to be outdone Commodore hit back with a 68040 card for the Amiga 3000. The 3000 also took a 90-degree turn to become the tower 3500.

Apple set up spin-off firm General Magic to work on computers with intuitive interfaces. The first product was expected to be the MacStation, a smart keyboard which could be used as a portable. A machine called the Portable Intelligent Communicator was also forecast.

As the World Cup reached its climax, a psychic Amstrad owner predicted Cameroon's victory over Argentina, and said England would win in an England–Argentina final. The Express team were so confident they put some money on at Ladbrokes...

Other headlines:

Flight sim banned over Nazi symbols

WW2 pics in a game's manual upset the Germans.

Give a monkey an Apple Mac and she will read her books

No, we didn't understand it either...

AUGUST

The month for consoles with Commodore releasing its GS C64 console (predicted by Express in June) and Amstrad launching the GX4000. Both machines were pitching for the lucrative Christmas market, and both seem to have met with some success.

Also on the scene were the revamped Amstrad CPC range. The 464 Plus and 6128 Plus were hailed as showing 8-bit computers didn't have to be old fashioned and featured improved graphics and a cartridge port.

Commodore unveiled its Amiga package for Christmas. Screen Gems was originally going to contain the *Teenage Mutant Ninja Turtles* game from Mirrosoft, but rumour had it Nintendo put a stop to that to protect its own Turtles bundle with the Entertainment System.

A bunch of American protesters marched on Lotus to protest at the 'look-and-feel' copyright action. Their chant: '1, 2, 3, 4, kick that lawsuit out the door; 5, 6, 7, 8, innovate don't litigate; 9, A, B, C, interfaces should be free; D, E, F, O, look-and-feel has got to go!'

Other headlines:

Autodesk gets \$2,000,000 from software pirates

One firm took the law into its own hands

Games giant shuns 16-bits

Activision pulls out of the ST and Amiga market

SEPTEMBER

September saw a sad loss for the computing community; the Sinclair Spectrum Plus 3 breathed its last. An equally sad loss (takes out onion) was the demise of *Popular Computing Weekly*, our main rivals for two years.

Amstrad launched new machines at the other end of the market; the PC3000 series (predicted by Express back in February). The metal-boxed machines were designed to give Amstrad credibility in the PC world.

An Atari consol began to take shape; called the Panther it was predicted to be 16-bit affair rivalling the Sega Megadrive. Another hot rumour – an upgrade to the Amiga 500 – was fuelled by the quiet launch in the States of the Amiga 500 Professional, a 1Mb machine with an upgraded chip set and Workbench 2.

On the software side, one of the most eagerly awaited products finally surfaced: *Deluxe Paint ST* set the standard for Atari graphics.



* So then, we say a sad farewell to the Spectrum Plus 3.

Other headlines:

Iraqis steal UK computer secrets

Saddam had access to a coding box of tricks.

London overrun by monsters

The Computer Entertainment Show makes a hit

OCTOBER

The big news of the autumn had our tongues hanging out: the launch of the colour NeXT machines. With both 68040 and 880 processors, built in laser disks and 16



* The Amstrad 464 Plus: proving 8-bits weren't old fashioned

1990 ROUND-UP

WHAT A YEAR!

million colours on the screen; the NeXT machine was truly gobsmacking – and relatively affordable for such an over the top machine.

Much more affordable, but equally desirable in their own way, were the three new Macs. The Classic came in at a fraction under £600, finally bringing the Mac to the masses, the IIci knocked a grand off the price of a Mac II, but the one we're all saving up for is the LC – a colour Macintosh for around £1,500.

Commodore launched the Amiga 1500; a half-way house between the gamesy A500 and the expensive 2000 aimed at the home business user with a penchant for quality games. Many commentators predicted a Z80-style hand-held from Amstrad in the New Year.

Someone who was definitely working on such a machine was Sir Clive Sinclair, whose latest project involved a PC-compatible hand-held. Also on the PC side, Sega was expected to come out with plans for a PC which could also run Megadrive cartridges!



* NeXT: Is this what a Mac wants to be when it grows up?

Other headlines

Firm plans CDTV rental scheme

Commodore looking for a High Street link-up.

STE hard disks under threat

Some STEs were incompatible with their hard drives

NOVEMBER

Atari set about producing a major set of upgrades for models in the ST range which had escaped the previous year. The Mega range got a smart new box and a doubled clock speed, while the Stacy portable got the same upgrades as its stationary brother the STE.

Telly added got a boost, Sharp and Nintendo combined to produce a TV with the Super Famicom console built in. Philips launched the first of its CD-I range; the consumer models were put back to 1992. More CD delays from Commodore, whose CDTV had been slipping down the release schedule for months.

The US protesters lost out. Paperback settled out of court and agreed to stop making VP Planner, a spreadsheet Lotus claimed looked and felt like 1-2-3.

After the demise of the Plus 3, Spectrum owners got a boost from the news that a Spectrum console was in development; trouble was it was in Russia!

On the games front, Gazzal's long overdue return to the computer scene was made with Gazzal, which was falsely rumoured to have a Lindisfarne soundtrack.

Other headlines:

Amstrad games PC set for 1991 launch

The PC4000 will rival the ST and Amiga for gaming

Atari 2600 face jail in piracy scandal

The authorities weren't wasting their time after all..

DECEMBER

Raised eyebrows all round as Acorn and Apple tied up a deal to market Acorn's ARM RISC chip which powers the Archimedes. The low power consumption, high performance chip would be ideal to power the new General



* The entry level Mac Classic at under £600.

Magic computer, but no comment from Apple. Queues formed in the States to buy the low-cost Mac Classic. The colour LC shipped ahead of schedule too.

Intel announced a computer made up of thousands of its i860 processors which was breaking all speed records – and a few price barriers as well. A single i860 was enough to give the NeXT a stunning turn of speed, so 2,048 in the Sigma should be something special.

Computer gaming in virtual reality was science fiction until BattleTech came along – and the walk-through video game will be in Britain soon.

Which wraps up the computer year; unless of course IBM goes bankrupt between now and the new year. Onwards to 1991 when you can be sure that Express will bring you the news as soon as it happens – and weeks before the rest.

Other headlines:

Maggie makes sweet success

We had to get her in somewhere

Toaster pops up

The fourth 'Amiga Video Toaster arrives' story this year

THE YEAR IN GAMES

We've seen a flood of new games; here are some of them listed by the month they were first mentioned in Express – some were plans, some previews, others launches. Some still haven't arrived, some probably never will...

MARCH
Castle Master
Speedball 2
Leisure Suit Larry In Passionate Pursuit
Patti In Pursuit Of Pulsating Pectorals
Pinball Magic
Teenage Mutant Ninja Turtles
CPC Kick Off

APRIL/MAY
Defenders Of The Earth
Conflict
The Hunt For Red October
Conqueror
MicroProse Soccer 2
Thomas The Tank Engine
The A-Team
Liverpool FC Soccer
Wipe Out
World Cup Soccer 90

Klax
Imperium
Asterix

MARCH
Last Days Of Doom
Debut
Paradroid '90
Ranke's Drift
Wall Street Wizard
Bloody Kids
Cloud Kingdoms
Chess King 2100
LHX Attack Chopper
Circuit's Edge
Elvira, Mistress Of The Dark
Venus
Grand National
Kid Gloves
Colorado
Dragon's Lair 2
Guns And Butter

JUNE
Yogi's Great Escape
F15 Strike Eagle
Steve Davis Snooker
Defender Of Rome
Where In The World Is Carmen Sandiego?

Escape From Colditz
Nebulous 2
Spy Who Loved Me
Mad Max
Yellowthread Street

JULY
Balance Of The Planet
Atomix
F-19 Stealth Fighter
Apocalypse
Saint Dragon
Big Gun
PGA Tour Golf
Rod Land

AUGUST
Advanced Flight Simulator
Power Drift
Herewith The Clues
Yolanda
Search For The King
Slim Earth
Kick Off 2

SEPTEMBER
Dick Tracy
Cadaver
Street Hockey

Lotus Turbo Esprit
Buck Rogers
Battle Chess 2
Rogue Trooper
Gremlins 2
Shockwave
Badlands

OCTOBER
Powermonger
James Pond
Team Suzuki
Blitzkrieg May 1940
Robin Hood
ATF 2
The Killing Game Show
Godfather
The Simpsons
Defender 2
Wonderland

NOVEMBER
Horror Zombies
Brides Of Dracula
Trevor Brookings World Cup Glory
Wizball 2
Tournament Golf
Win A Billion

Wing Commander
The Final Conflict
The Savage Empire
Populous 2
The Amazing Spiderman
Gunship 2000

NOVEMBER
Dr Mario
Rick Dangerous 2
Captive
Match Pairs
Maya
Nine Lives
John Madden Football
4D Sports Driving
Hard Nova
Gazzal!
Terminator 2

DECEMBER
Mission Impossible
Narco Police
Sim City 2
Judge Dredd
Vector Championship Run
RoboCop 2

SHOPPING *EXPRESS*

THE VALUE-PACKED GUIDE TO YOUR MACHINE AND MORE

CONTENTS

| | |
|---|----|
| MACINTOSH | 18 |
| A new virus is discovered | |
| CPC | 19 |
| A 6128 Plus that loads from tape? | |
| AMIGA | 21 |
| School's in and getting lost is out | |
| ARCHIMEDES | 22 |
| Twin World's. Don't call Agent Cooper | |
| PC | 23 |
| A whizzy new chip from the States | |
| C64 | 24 |
| Dragons breed and the latecomers are still late | |
| SPECTRUM | 26 |
| Brand new Plus 3s on sale? Surely a jest. | |
| ST | 27 |
| Get real, get virtual | |
| WHOLE WIRED WORLD | 35 |
| Get the globally warming feeling with Steve Gold | |
| PROGRAMMING | 38 |
| The programmers' paradise opens for another week | |
| CENTREFOLD | 44 |
| 1990 gets a right mauling by Tim Smith | |
| EXPRESS ON-LINE | 58 |
| The weekly bulletin board and user group guide | |
| TECH TIPS | 62 |
| More sound advice from The Big K | |
| CIRCUIT CITY | 64 |
| An electronic construction kit sans solder with Big K | |
| THE PD COLUMN | 66 |
| Classic 8-bit fun and a new disk magazine | |

**Tim Smith's Centrefold...
... not worth reading if you're
at all interested in a serious,
penetrating over-view of the
year's trends and events.**

FREE! Reader Ads Order Form

PLEASE TICK THE CATEGORY YOU WANT YOUR AD TO GO IN:

- HELP OFFERED
 - SERVICES
 - ANNOUNCEMENTS

- GOODS WANTED
VIRUS WARNING
MINI-TIPS**

BUGS DISCOVERED

EVENTS

NAME

ADDRESS

TEI

PERSONAL

Send your reader ads to:
SHOPPING EXPRESS READER ADS,
30 MONMOUTH STREET, BATH BA1 2BW

Terms and conditions

- Sorry, NO Trade ads. ■ reader ads must be from private individuals.
 - We cannot vouch for the quality of goods and/or services offered in this section. ■ ads are accepted in good faith.
 - We reserve the right to amend or refuse reader ads at our discretion.
 - No pirated software may be sold through these columns. Any reader being offered non-originals should contact us.
 - We cannot guarantee that reader ads will appear in particular issues of Express
 - The following declaration should be signed:

My advertisement conforms to the terms above and is legal, decent, honest and truthful.

Signed

WRITE YOUR FREE AD HERE USING ONE BOX PER WORD IN BLOCK CAPITALS

COMPUTER LAB

HARDWARE

Amiga Screen Gems Pack £349.00
 Amiga Class. of the 90's Pack £499.00
 Amiga 2000 please ring for best prices
 Amiga 3000 please ring for best prices

Discovery Pack 520STFM £269.00
 Power Pack 520STE £359.00
 1040 packs from £434.00
 Lynx £159.00

Please ring for best discounts on hardware and software - the very best games machines in the world today.

SEGA MEGADRIVE
 Megadrive £149.00
 Software all at discounted prices,
 please ring for details.



PUBLIC DOMAIN DISKS

ST PROGRAMS - Basic, Assembly, C Compiler, Modulator 2, Compiler C Tutorial, Lisp, Logo and Gem programmers guide.

ST PROGRAMMERS PACK - Sezomono, Modular 2, C Tutor, Lisp, Logo, Gem Programmers Guide

We have an extensive range of public domain and shareware programs. Please ring for details of our Amiga 2000 and 3000 software.

SEVEN DISK SPECIALS ONLY £10.95

AMIGA DEMO PACK 4 - All of the best latest demos. Pack changes all the time but never has same demo twice.

AMIGA BUSINESS PACK - Spreadsheets, Wordprocessor, Database, Journal, N.A.G., Inventory.

AMIGA UTILITY PACK 2 - Virus killers, Copiers, Disk Managers, Rippers, Bootciders. Plus loads more.

AMIGA PROGRAMMERS PACK - C compilers, Assemblers, Source Codes, Pascal, LISP, II manual etc.

ST GAMES - Azarius, Othello, Checkers, Breakout, Tennis, Football, Monopoly, Rocm, Invaders, Temps, Bermuda Race 2.

PC BUSINESS - Spreadsheets, Database, Inventory, Focals, Stocks, Share, Double Sentry, ST Writer, Elite 3.

BLANK DISKS

3.5" QUALITY DISKS £12.00 FOR 30
 FULLY GUARANTEED DSDD 100% CERTIFIED

PROMPT DELIVERY
85a MANSFIELD RD, DAYBROOK,
NOTTINGHAM, NG5 6BH.

24 HOUR ORDERLINE
TELEPHONE: NOTTM.
(0602) 673674/673672

HIGH QUALITY DISKETTES

PIN NUMBERED QUALITY DISKETTES 100% CERTIFIED AND
 GUARANTEED 100% ERROR FREE. MANUFACTURED AND
 QUALITY ASSURED BY AN INTERNATIONAL BRAND NAME

3 1/2 DS COLOURED
39p EACH

RED, WHITE, BLACK, YELLOW, ORANGE, GREEN.
 OVER 100
 RING FOR PRICE

| | | |
|----------|-----|-------------------|
| 3 1/2 DS | 75p | 5 1/4 DS COLOURED |
| 2 DD | | |
| 5 1/4 DS | 22p | 28p |
| 5 1/4 DD | 22p | 42p |

31 PLASTIC EA STORAGE BOXES
31/2 LIBRARY 89p
5 1/4 CASES

| | |
|------------------------|-----------------------|
| 31/2 40 cap ... £4.20 | 31/2 80 cap ... £4.60 |
| 5 1/4 50 cap ... £4.40 | 5 1/4 100 cap £4.90 |

EURODATA
 12A QUAKERS YARD
 ADAM AND EVE ST
 MARKET
 HARBOUROUGH
 LEIC LE16 7LT
 TEL: 0858 433992
 FAX: 0858 432549

RING FOR
 MEMOREX
 BRANDED PRICES

LIFETIME GUARANTEE
ALL PRICES INCLUDE DISKETTE
LABELS ENVELOPES AND VAT
ORDER NOW BY TELEPHONE, FAX, POSTAL ORDER OR
CHEQUE MADE PAYABLE TO EURODATA,
OR TELEPHONE YOUR ORDER USING
MASTERCARD & VISA, SUBJECT TO
AVAILABILITY
ADD £3.20 P&P



LOWEST PRICES FOR HIGHEST QUALITY

MACTRICKS

Here's one for any Classic owners out there, when you start up (or restart) your computer, hold down Command-Opt-X-O while you're doing it. You will find that your Mac has booted up using a ROM disk, rather than the normal floppy or hard disk.

It transpires that there's a hidden 'disk' on the Classic's ROMs, of which Apple was at one time intending to make use. It decided not to, but the 'disk' remains hidden in the depths of your machine. Apparently, the initial idea was to allow the Classic III to be used as a 'diskless workstation', connected up to a network and not requiring a floppy or hard drive. That's why the ROM disk contains AppleShare.

The practical upshot of this is that if your hard disk crashes, or if you have a floppy-only machine, you can start up the Mac without using a conventional System floppy - and this, of course, makes the single-floppy Macintosh a much more appealing proposition.

Why Command-Opt-X-O? Well, during development the Classic was codenamed the Xo. Easy, really...

On the same sort of subject, but rather more up-market, here's one for anyone out there who owns a Macintosh IIci. Alter the date from the Control Panel II to September 20, 1989. Then restart your machine, holding down the Command, Option, c and i keys as you do so. Before you open eyes, a colour picture of the IIci motherboard will appear on the screen. September 20 1989 was, of course, the date when that machine was launched.

Just in case you Mac SE owners are feeling left out, here's how to get silly pictures on your machines: Press the 'interrupt' button on the programmer's switch if you don't know what that is, the information is in your

manual; you don't have to be a programmer to have the programmer's switch installed - everyone should have it attached! Then, in the small window which appears on the screen, type the following:

G 4 1DB9A <return>

When you've finished marvelling, to return to normal either press the 'reboot' switch or hit the interrupt switch again and type:

SM FA700 AF84 <return>

PC FA700 <return>

G <return>

Apparently there is a similar trick for the Mac Plus. If anyone knows what it is, please drop me a line care of the magazine and let me know, or alternatively e-mail me: I'm 100016,320 on CompuServe, *fwrigley* on CIX and 'MACPUBLISH' on AppleLink.

MAGIC

A couple of weeks ago David Margerstein, in his 'Postcard from America', told us how to access the full facilities of HyperCard 2, which is being shipped with all the new Macs. But I thought that it's worth reiterating it here: as shipped, HyperCard 2 only allows the user access to two of the five levels. To write HyperCard programs, you need access to the other three levels, and to gain that access, call up a message box (Command-M), type the word 'magic' and hit return. Hey presto - the other three levels will appear.

CHRISSEY PRESSIES

If you've got aged relatives asking what you want for Christmas, here's a book worth getting if you're a computerphile: *The Cuckoo's Egg*, by Clifford Stoll. It

POSTCARD FROM AMERICA

This week, David Margerstein considers the hot topic (ho ho) of fire, and its effect on your precious data.

"Think you're ready for any data emergency?" The utility programs are on the hard drive and floppies, waiting for a failure. Everything is backed up, during the digital gremlins to do their worst. Believe me, you are not prepared for the worst and most primitive of data disasters - fire.

I recently witnessed a fire at the personnel department of a local university.

The entire office was gutted. All their computers and peripherals were destroyed. The fire was blamed on faulty wiring, or is that a new way of describing a cigarette left in a trash bin?

"They made a point of locking up all their employee records every night, but left their data was safe in desk drawers, and hard drives. Years of correspondence became blackened shambles of trash in minutes. Also lost were data and reports representing thousands of hours of professional analytical work. It's hard for all users, at home, or in the office, to understand that it's the data that's important, not the expensive boxes that

give us access to the marvels of software engineering."

"Many safe manufacturers have special models to protect data. They are quite different from paper-free safes. Paper burns at 190° C. Media safes are rated around 65° C per hour of fire for large tape data, and 50° C for cassettes. These safes will work for floppy media as well. There are several models that look like two-drawer filing cabinets."

"Data safes are more expensive than paper models. You absolutely do not want to get-a-deal, and buy an old used safe. Old money safes are worthless for protecting data - they're worthless for protecting money, too. They're meant to keep greedy fingers away from the dough, not fire."

"I spoke to Ken Dunckel, a professional safecracker, about the problem. He said that small numbers of disks can be protected by putting them in a small fire-resistant media container, and placing that in a regular paper safe. He stressed that 50 per cent of businesses that lose their records in a fire never reopen. Is this a hot tip, or what?

A screenshot of the Disinfectant 2.4 software window. The title bar says "Disinfectant 2.4". The menu bar includes "File", "Edit", "Scan", "Disinfect", "Protect", "Mail", and "Help". A toolbar below the menu has icons for "Big, fat and ugly", "HPress 2.12", and "QuarkPress 2.12". The main window contains text about running the program for the first time, instructions for using the toolbar, and a note about saving files. It also shows file statistics: 119 files scanned, 0 infected files, and 0 errors. Buttons at the bottom include "Delete", "Encrypt", "Scan", "Disinfect", "Cancel", and "Quit".

• The main menu for Disinfectant 2.4.

costs £12.95, and its ISBN is 0 370 31433 6.

It's all about how an American working at a university tracked down a German, working for the KGB, who was hacking into MILNET, a network connecting hundreds of American military computers. This may sound a little dry, but in fact it's fascinating.

If that doesn't sound to your taste, then Volume 3 of *The Macintosh Bible* is now in the shops. It's a must for anyone who's seriously interested in becoming a power user of the Macintosh.

If software's what you want, then get MacLine (081 643 4626) and Camelot (0734 591500) to send you their catalogues. For computer books, try Computer Manuals Limited (021 706 6000). And all pressies for me will be gratefully received.

VIRUS WATCH

A new Macintosh virus has been discovered – there seems to be a new

Ian Wrigley

512B PLUS THAT LOADS FROM TAPE

The new Amstrad 6128 Plus scores in a big way over its predecessor with its styling and its ability to play console games - but a minus point is the fact that there's no way to load software from tape!

After all, the old CPC had a jack socket for users who wanted to load games off cassette, even if the machine was disk-based, but the new version doesn't even let users do that. This is a bit of a blow for those who want a disk machine but also want to load the odd budget game.

Well, it's a bit of a tricky way round, but WAVE may well have the answer for those determined to make the most of the 6128 Plus's console capability and the huge range of budget software out there. For the sum of £20, WAVE will convert your new machine to load those game tapes - and will even sell you a tape-loading 6128 Plus at the same price as an unmodified version. A pretty decent offer, since WAVE is selling the machines at £25 of the recommended retail price anyway!

But be warned. There are two things you really ought to know if you're interested. The first is that if WAVE converts your machine for you, the manufacturer's warranty will be

one out every month or so these days. What do these cretins think is so clever about writing a Mac virus? If they have the skill to do that, why the hell don't they do something sensible instead?

The new virus is a variant on ZUC, called ZUC II. Fortunately for the Mac community as a whole, some people don't think that viruses are so great, and a new version of Disinfectant has

been brought out to combat it. Disinfectant 2.4 is available from on-line services such as CIX (in the conference 'mac', topic 'files'), and from user

groups and other public domain software sources. It's totally free, and rekindles your faith that the vast majority of people have better things to do than cause others trouble. The program is written by a guy call John Norstadt, who works at an American university, and a new version appears a couple of days after any new virus. Give that man a prize!

Ian Wrigley

invalidated. It's only a simple modification and is unlikely to cause any problems, but once the case has been opened you're on your own. The other thing is that even with the modification, you'll only be able to LOAD from tape. For some reason the WAVE technicians haven't yet been able to fathom, you

If you're not too worried about your warranty, and absolutely have to be able to load tape software into your 6128 Plus, WAVE is at 1 Buccleuch Street, Barrow-in-Furness, Cumbria LA14 1SR (0229 870000).

MORE DD-1 BARGAINS!

AMSTRAD DRIVERS.
I thought we'd seen the last of the frantic price-cutting on Amstrad DD+ drives (they're the ones with the interface for the 464) - after all, existing stocks couldn't last for ever, and Amstrad wasn't making any more. Certainly over the past few weeks it seemed as if prices were on the up again, and the drives getting progressively harder to find.

However, peripherals supplier Microstyle has nevertheless managed to land a few more of the little beasties - and at the amazing price of £69.99 plus £3 postage and packaging! It's back to the days of silly pences again, but not

| E.E.C. LTD | |
|--|---------------------------|
| QL'S FROM C125 | PRINTERS FROM £180 |
| * MICRODRIVE EXPANSION KIT* | |
| Includes Microdrive, interface 1 Booklet, Network Lead, Introduction Card, Power Supply, Fax connector | £59.95 |
| MICRODRIVE EXPANSION KIT AS ABOVE WITH 2 MICRODRIVES | £65.95 |
| EXTRA MICRODRIVES (Reconditioned) | £18.95 |
| MICRODRIVE CARTRIDGES (Reconditioned) - Wallets at 4 - £12.00 | Boxes of 20 - £55.00 |
| POWER SUPPLY UNITS for QL 128K (Standard) or 128K | £10.00 |
| POWER SUPPLY UNITS for QL | £12.00 |
| POWER SUPPLY UNITS for CL | £12.00 |
| SPECIAL OFFERS * | |
| Philips 9CM073 Professional Colour monitors | £220 |
| 14" High res. RGB EGA. | |
| 3.5" UNIVERSAL (MGT LIFETIME) DISK DRIVE cased with PSU for Spectrum, QL, Atari, Amiga etc | £85 |
| Lead for DiDrive. | £10 |
| UNCASED 3.5" NEC 1086 DRIVES | £35 |
| * PRINTER CLEARANCE * | |
| MANNESMANN TALLY M101 Heavy duty cold print matrix printer 190 CPS, 28CS, NLO | £130 |
| Epson IBM compatible | |
| Serial Interface available if required | £24 |
| ALPHACOM PAPER.....ONE ROLL - £5.50 | FIVE ROLL PACK - £12.95 |
| * SINCLAIR QL * | |
| THE EXPANDABLE SYSTEM FOR SMALL BUSINESSES, BEGINNERS AND EXPERTS | £125 |
| QLs COMPLETE, JM FULLY TESTED AND WITH 9 MONTHS WARRANTY | |
| QL WITH JS ROM | £150 |
| SOFTWARE, QUILT - Word Processor, ABACUS Spread sheet, ARCHIVE: READER, EASEL, Business Graphics. | |
| CUSTOMER SUPPORT, TRAINING & DL COMPUTERES ARE GIVEN ONE YEAR'S FREE MEMBERSHIP TO QTAJA (HQ), Newsletters, & 40+ library programs - most Free). | |
| QUANTA MEMBERS CAN OBTAIN A £50 DISCOUNT. | |
| THE QL IS THE ONLY PROGRAM AVAILABLE FOR THE QL SYSTEM * | |
| BUSINESS SOFTWARE (WAREHOUSE, SPREADSHEET, etc) FOR SMALL COMPANIES | |
| SMALL TRADES FAXER £24.95, INVOICER £19.95, GENERAL LEDGER £19.95, SET OF THREE £50.00, MERGER £14.95, FILLER PACK £14.95 | |
| STOCK ACCOUNTING £39.95, (for expanded QLs) Send S.A.E. for DETAILS & QL FULL PRICE LIST | |
| PRICES INCLUDE VAT, TERMS CWO, ACCESS OR VISA | VISA |
| Minimum order £10.00, £1.50 p/p for printers & CL, (overseas £2.00). | |
| Other items £3.00 p/p, £1.00 UK £0.50 | |
| E | EEC LTD |
| Accept | MasterCard |
| 18 - 21 Misbourne House, Chiltern Hill, Chalfont St Peter, Bucks, SL9 9UE. Tel: 0753 888866. Fax: 0753 887149 (AD7) | |

**Christmas comes but once a year so
please buy all your discs from here**

BULK BUYERS

| | | |
|-----|-------------|-------|
| 50 | 31 2 DS/DD | £19 |
| 100 | 31 2 DS/DD | £34 |
| 200 | 31 2 DS/DD | £63 |
| 400 | 3 1/2 DS/DD | £122 |
| 500 | 1000 | £Call |

Price includes VAT & 3 day delivery

DSK + BOXES

| | | |
|-----|--------------------|-------|
| 50 | Disks + 80 Box | £22 |
| 100 | Disks + 80 Box | £37 |
| 200 | Disks + 80 Box | £72 |
| 400 | Disks + 2 80 boxes | £140 |
| 500 | Disks | £Call |

This price includes VAT & 3 day delivery

SONY BIJL

| | | |
|-------|-----------|-----|
| 3 1/4 | DS/DD 20p | 42p |
| 5 1/4 | DS/HD 38p | |

3 1/2

| | |
|-----------------|-------|
| 40 cap disk box | £4.00 |
| 80 cap disk box | £4.34 |

SONY

POSSO 150 CAP

BOXES £15

BRANDED

74p

ALL DISKS CERTIFIED 100% ERROR FREE

* FREE DISKS CERTIFIED 100% ERROR FREE *

| FOR CONVENTIONAL 3-DAY DELIVERY, ADD \$10.00 | | FOR AIR MAIL, ADD \$50.00 FOR NEAR DAT | |
|--|-------|--|-------|
| AMIGAS | | ATARIS | |
| SCREEN GEMS | \$349 | Cumana Drive | \$37 |
| Screen Gems & Astr | | Power Drive | \$66 |
| Games Pack | \$385 | 1 1/2 MEG Upgrade | \$55 |
| 100% CDS | \$50 | Mouse Mat | \$90 |
| FIRST STEPS | \$100 | Zipstick | \$250 |
| DUST COVER | \$10 | Quickkey Jeffighter | \$11 |
| 1/2 MEG Upgrade | \$32 | Lynx | \$115 |
| | | Discovery | \$259 |
| | | Turbo Pack | \$350 |
| | | Top Portfolio | \$499 |
| | | Cumana Drive | \$120 |
| | | Dust Cover | \$5 |

PHILIPS 8833 MK II £209 STAR LC-200 PRINTER £199
VISA CALL OR SEND CHEQUES TO B.C.S LTD
349 DITCHLING ROAD, BRIGHTON BN1 6JU
TEL: 0273 566269 - 0831 2700847 7 days 24 hours

COMPUTER REPAIRS

CB SYSTEMS —~ LINK

The Repair Specialists

| | |
|-----------|------------------------------------|
| Sinclair | 16K, 48K, 128K, +1, +2, +3 |
| Commodore | VIC20, 16, 64, 128, Amiga |
| Amstrad | 464, 664, 6128, 8256, 8512, 9512 |
| Acorn | Electron, BBC, Master, Archamedies |
| Atari | 400, 800, ST500, ST1040 |

All the above are on a fixed labour charge plus the cost of the parts

IBM..... PC, XT, AT, PS2

Amstrad..... 1512, 1640, 2086, 2286, 2386

IBM Clones..... Any make / model undertaken

The above are charged on a hourly rate

Most printers and monitors repaired

Spares we can supply most parts from single ICs to complete exchange boards

Sales(new/secondhand)-Installation-Cabling

Why not save base and send us your computer for repair by post

Phone 081 979 5638

86 Walton Road East Molesey Surrey KT8 ODL

150 Space public car park at rear of shop

FREE 2 YEAR WARRANTY WITH ALL COMPUTERS BELOW!

for long, as Microstyle only has a certain number of them available at that price.

As ever, Microstyle can be contacted at 212 Ditchling Hill Road, Bradford, West Yorkshire BD2 3DF (0274 636652, after 2pm).

DANGEROUS POKE

Rick Dangerous 2 was undeniably one of the year's best games, combining arcade platform action with timing puzzles, hordes of baddies and wicked, wicked gameplay. Now Andy Price from Dunstable has come up with a poke for infinite lives, lasers and bombs for the disk version...

1 F Rick Dangerous 2

2 F disc version

3 F by ANDY PRICE

4 F MI Manish!

```

5 F DATA 21,00,01,11,00
20 DATA 00,01,41,df,$4
30 DATA 00,21,57,00,22
40 DATA 00,01,c3,00,01
50 DATA 3c,c0,00,01
60 DATA 00,22,1c,be,c3
70 DATA 00,,be,f2,32,c2
80 DATA 05,dd,21,32,91
90 DATA dd,77,00,dd,77
100 DATA 01,dd,77,02,dd
110 DATA 21,dd,95,dd,77
120 DATA 00,dd,77,01,dd
130 DATA 77,02,c3,3e,7a
140 FOR x=240 TO 480
150 READ x$:=x\=VAL(_A1 x\$)
160 POKE a,x\$:=y\$:NEXT
170 IF y\$=1757 THEN 200
180 PRINT print disc any key!
190 CALL &BBB1:CALL 440
200 PRINT# DATA error

```

Rod Lawton

OFF OF THE CARPET AND ONTO YOUR SCREEN

Hands up all those who've ever played Subbuteo football on the living room carpet! I mean, it's not what you'd call a realistic football sim, is it? And if you then think about a computer simulation of that, well, it's a long way from football, isn't it?

It's not a fact that worried Electronic Zoo, though. The company has gone ahead and turned out a computer version of the game that has you flicking poly-poly footballers into a ball half as big as they are, and trying to get the whole game over with inside a week. And the deth thing is, it really works!

The idea is that you 'flick' your players into the ball, trying to either pass it to another of your players or shoot at the opponent's goal. You keep possession for as long as you can keep hitting the ball when it's your turn, and in the meantime, your opponent is allowed 'defensive flicks' to try and head you off and be in the right position if you make a mistake.

If an opposing player strikes the ball when it's in your possession you get a free kick. Similarly, if a player hits another before hitting the ball it's a foul.

Subbuteo games don't exactly have the same immediacy as other桌上 game, but they have a certain tactical appeal to make up for it. Subbuteo is as much like snooker as football, and you'll spend plenty of time planning your positional play and 'flick power'.

You can even add spin to your flick, for extra tricky shots. Be warned, though,

* Do all those fond memories come flooding back? Subbuteo on the Amstrad looks just like Subbuteo on the living room carpet or the kitchen table.

This requires plenty of skill and practice if you're not to miss by a mile.

So far so good, but Subbuteo is not without its faults. OK, it looks like snooker on a football pitch, but you can't rely on the same accuracy of control as in snooker.

You might think that you've judged the angle on the ball just right to send it off on a tangent, but half the time it just shoots off straight ahead. At other times, you might think you're hitting the ball square, only to have it shooting off at an angle! This, and the difficulty of applying spin with any accuracy, take a fair amount away from the game - otherwise it would be a really good boy.

As it is, Subbuteo is entertaining, but not quite accurate enough in its 'physics' to be a real classic.



* The goalkeepers are pretty incompetent, but this one's just about managed to grab the ball, ready to pass it (hopefully) to one of the defenders. The goalies are controlled automatically by the computer.

P
O
S
T
E
X
P
R
E
S
S

IDEAL FOR 5's AND OVER ★ FIRST STEPS EDUCATIONAL PACKAGE

AMIGA 500
Modulator
D-Print 2
D-Print 2
Pro-Write 2.5
Info File
Music Master
Less Spell at Home
Amiga logo
Talking Turtle
BBC Emulator
Mouse
Mouse Mat
10 blank disks
Play books
Workbench
1024K RAM

£529.00

AMIGA 1500 PHC OUR PRICE £1079

Stereo Colour Monitor
A1500, 1024K RAM
2.5" Disk Drives
Word Processor, Database
Spreadsheet, Populous, Sim City,
D-Paint III, Their Finest Hour
Books, Mouse, Workbench etc.
RRP Nearly £2400
A3000 Available

| | |
|--------------------------|---------|
| Atari Lynx + software | £119.95 |
| Sega Master Drive 16 bit | £174.95 |
| Sega Master System | £74.95 |
| C64 Miniplayer's Pack | £149.95 |
| C64 Games System | £99.95 |
| Amstrad Games System | £99.95 |

All prices include VAT & Delivery. All computers are pre-used UK specification. All computers include a FREE HOME PAGE.

Proprietor: Mark A. Cameron

Please make cheques payable to POST EXPRESS
Hilcrest House, 100-102 High Street, London, E10 5EF.
Telephone: 081 518 7484 9am - 11pm

VISA

E

Amiga

FUN WITH FUN SCHOOL

They say that most people are kids at heart, and I'd certainly agree with that having played Mandarin's new Fun School 3 series of education programs. OK, educational programs are usually pretty boring, but I must admit that I had a lot of fun with Fun School 3 (perhaps I even learnt something).

When I first received them I was rather sceptical, but it didn't take long before I was adding numbers with teddy, correcting the sentences with the friendly robot and working out sums by guiding the little onscreen frog across the screen. Maybe it's as mad as a balloon, but I loved every minute of it.

Fun School 3 actually consists of three separate packages, each catering for a specific age range. They consist of six separate educational programs, which are designed to develop skills at your child's own pace. All include beautifully created pictures, stunning animation and exciting digitised sounds which are sure to keep even the most demanding of children interested. What's more, they will also teach your child the basics of computer operation, a skill which has become a necessity in today's world.

For the £30 asking price, they're an absolute bargain which really shouldn't be missed. I recommend them wholeheartedly. For more information, phone Mandarin on 0625 878888.

DTP UPDATE

As I exclusively revealed about six months ago, Gold Disk is soon to release version 2.0 of its acclaimed DTP system, Professional Page.

Exactly what is new is a bit vague, but I have been assured that the new program has been completely revised making it both look and feel like an entirely new product. The most immediately obvious enhancement is ProPage's user interface - all the gadgets have a Workbench 2.0-like bass-relief effect to them, therefore making the whole package bit more professional.

Features-wise, it seems certain that the new release will support multiple pages. It will also be possible to run text at any angle, therefore allowing you to rotate text boxes. I'll let you know about any new features as soon as I hear more.

ProPage comes hot on the heels of version 2 of its main rival, PageStream. Version 2 of PageStream has been promised (and was indeed previewed at the recent Commodore Show), but UK distributor Sols still has not officially released the product. As soon as I get both new packages, expect an in-depth head-to-head review.

Both PageStream 2 and Professional Page 2 will be distributed by Silica Distribution (SOL to their friends) which is on 071 309 1111.

COMPLEX GUIDE

The other day I had to drive up to Manchester (which is about 200 miles away from where I live). So I jumped into my faithful fuel-injected jalopy and headed north.

A little over an hour later I came to the conclusion that I was well and truly lost. So I pulled over onto the side of the

road and got out my trusty road map. Unfortunately mapreading has never been a great strength of mine, so that didn't help one bit either.

Of course what I needed was GBRoute, a brand spanking new journey planner program from Complex Computers. Based on the principles of NextBase's industry-renowned Autoroute package (which is only available on the PC and ST), the program promises to guide you from A to B with a minimal amount of fuss and bother.

As PC and ST owners will tell you, Autoroute certainly doesn't come cheap (in excess of £100), but Complex Computers has decided to release its journey planner for just £39.95. I'm sure you'll agree, a veritable bargain if ever there was one!

Using the program is pretty straightforward. You have to do is to select 'New' from the pull down menus and a requester will appear which allows you to type in where you are, where you want to go and any excursions you wish to make along the way. Click on the 'GO' gadget and within seconds GB Route draws a map of your entire route.

Calculation speed is one of the factors that makes GB Route so special - it takes just four seconds to calculate the route from John O'Groats to Lands End. When I tried the same on the ST version of Autoroute, it actually took over a minute.



* Never get lost with GB Route.

One of the few limitations of GB Route is that it only covers major roads such as A-roads and motorways. This won't make too much of a difference on lengthy journeys, but fairly short journeys can actually take longer if you take GB Route's advice. However, Complex Computers claims it is already hard at work on an upgrade that will extend GB Route's coverage to minor roads.

Amiga owning motorists would have to be plain crazy to miss out on this absolute bargain. Complex can be contacted on 0706 224531. Definitely my software choice of 1990.

ENERGETIC VENTURE

I must just give a brief mention to a new disk magazine called PD Energy which is being produced by New Image Software of Dunstable in Bedfordshire. Although the name has been decided, the developers (I suppose that's what you would call them) have yet to decide upon content. OK, there will be the usual news, reviews and PD utilities, but New Image is unsure about exactly what kind of things (both in terms of text-based features and programs) to feature.

AMIGAS ARE USELESS!

So you have got an Amiga or are getting one for Christmas either for yourself or your children? Your Amiga gives you hours of fun but do you care for the Amiga as much as it cares for you? When we get dirty we can have a shower and everything is fine again, but when the Amiga gets dirty disaster could strike! If you let dust or even liquids spill on to your keyboard, as accidents do happen, you could damage it and it may cost you a lot to repair! If this happens your Amiga could become USELESS! NOW THERE IS AN ANSWER - We sell plastic covers which are made especially for the Amiga family of computers, moulded so they fit over every key and allow you to type whilst the cover is on, giving your Amiga all the protection it needs. Can you afford to be without one this Christmas?

Please state A500/A1500/A2000. £9.99 inc P&P.

| OTHER PRODUCTS | |
|---|---------|
| KCS PC Board | £320.00 |
| PRO-4 Modem | £319.99 |
| Keep your Kids occupied with PD games pack (10 disks) | £9.99 |

DISKS 37p

All prices include P&P
except disks.
Please add £2.95

HOW TO ORDER

Goods despatched within 24hrs

- | | |
|--|--|
| 1) By phone 24hrs / 7 days 051-824-0200. with Access / Visa / Diners Card + exp. dates on: 051-931-3857 | 2) By fax with Access/Visa/Diners Card + exp. dates on: 051-931-3857 |
|--|--|

- 3) By post: send cheque or postal order or credit card No. + valid from and valid to dates to:

Unbeatable Prices Ltd, P.O. Box 5, Liverpool L23 0XG

WESTONING LTD

NEW LOW, LOW PRICES!

| | | |
|--|---|-------------------------------|
| 3½ DS/DD 30p Inc labels | 5½ DS/DD.. 20p 5½ DS/HD.. 38p | 3½ Branded £4.99 for 10 |
| 3½ DS/HD 70p | | |
| 3½ BOXES 40 cap £3.50 80 cap £4.00 150 cap £10.75 | 5½ BOXES 50 cap £3.50 100 cap £4.00 | |
| | | |

* NO QUIBBLE GUARANTEE - FOR LIFE!

ADD £4 P&P OR £9 NEXT DAY DELIVERY

AMIGA

| | |
|------------------------------------|------|
| Screen Gems | £349 |
| First Steps | £495 |
| Class 90s | £495 |
| External Drive | £55 |
| 1½ meg upgrade with Clock | £35 |
| 1½ meg upgrade without clock | £29 |
| 1½ meg upgrade with clock | £90 |
| 1½ meg upgrade without clock | £80 |



SPECIALS

| | |
|-----------------------|------|
| Star LC20 | £146 |
| Star LC200 | £199 |
| Philips CM8833 | £209 |
| Atari Discovery | £257 |

ALL PRICES INCLUDING V.A.T.

WESTONING LTD

12 SANDERSON ROAD, WESTONING, BEDFORD MK4 5JY
TEL: 0525 718668 0836 775060

WIN! WIN!! WIN!!!

End the year on the right note with

PLAY TO WIN.

Four great prizes in our December competitions.

- 1) £200 worth of software of your choice.
Ring 0836 - 405108.
- 2) Win a 16 bit MEGADRIVE.
Ring 0836 - 405106.
- 3) Win a SEGA GAME GEAR the new hand held sensation from Japan.
Ring 0836 - 405107.
- 4) Cowabunga! A Nintendo Turtle Pack.
Ring 0836 - 405109.

Competition lines open 1st to 31st December, 24 hrs. On 1st January, January competitions start.

Calls charged at 33p per minute cheap rate, 44p all other times. Ask permission prior to phoning.

PLAY TO WIN
159 Strathmore Avenue
Luton LU1 3QR

We also sell all the above and more.
 Tel: 0582 413943

COMPUTER REPAIRS

AMSTRAD, IBM, SINCLAIR

FIRST AID FOR TECHNOLOGY

- Commodore Registered repair centre.
- Amstrad/Sinclair Registered repair centre.
- Over 20 engineers at your disposal.
- Fast Turnaround, will typically be 24/48 hours.
- Many repairs at fixed prices, including parts, labour & VAT.
- Repairs warranted.
- Trade prices available.
- For a fast efficient service, with the peace of mind you would expect, simply hand deliver or post your machine to the workshop address detailed below and we will do the rest.
- Please phone for further fixed prices.

TELEPHONE: 0582 491949 (4 lines)

WTS Electronics Ltd, Studio Master House,
Chaul End Lane, Luton, Beds. LU4 8EZ.

This is where you come in. If you have any great ideas for the kind of material you would like to see on a disk magazine (don't forget, it's not paper-based, so highly illustrative articles aren't going to work), then give New Image a call. Who knows, if you come up with a great idea, they might even put you on their free-subscriptions list.

Contact Gareth on 0582 666680. As soon as the first issue is complete, I'll bring you more news.

Jason Holborn

SAVING INTERPHASE GAMES

The January issue of our sister magazine *Amiga Format* included the complete game *Interphase* from ImageWorks. At present you can't save games, but very soon you will be able to using a poke which Express will bring you soon. Watch this space for further details or check out the February issue of *Amiga Format*, out on January 10.



BROTHERS IN ARM LTD

The deal between Apple and Acorn to set up a new company, ARM Ltd, to develop new RISC chips sparked a firestorm of speculation. It's good news for Acorn, boosting its credibility and allowing it to focus on the business of building and selling computers.

Acorn has given up a part of its uniqueness, and something that made it a desirable place to work for the bright young boffins. But of course it also frees Acorn from having to pay for the development of new ARM chips. The work will now be "subsidised" by Apple and the third party VLSI.

The news sent Acorn shares soaring from 9p to around 25p before slipping back a little. I actually heard someone say they dropped due to "profit talking". I've never heard that phrase in the same sentence as the word "Acorn" before. Then again, I also heard someone suggest they could have made a killing. I think not, but a minor injury was just possible.

Mike Newton, managing director of Apple UK, stressed Apple is in it for the money. "It's a commercial investment", he claimed, convincing only the more credulous listeners. Quite why Apple should bother trying to turn a profit by

investing what amounts to petty cash in a chip design company escapes me. A more believable story came via a live video link to the States - from main Apple vice-president Larry Tesler - "We want a line in to this technology." In the past, Apple has ventured into PostScript by buying a slice of Adobe, and bought database technology along with Sybase. ARM Ltd looks like a similar deal.

The smart money says Apple wants to guide the future development of the ARM chipset, and to use ARM chips in a new ultra-portable computer built by Apple subsidiary General Magic (and rumoured to be called the MacSafe), though it isn't a Macintosh! All the talk at the launch was of the low power needs of the ARM processor - MIPS per watt is the new buzzword (or should that be Mi per joule) - and that points to a portable. And General Magic employs Andy Herzfeld, who helped Radius build its Am-Ported Mac graphics accelerator.

Apple also has a new range of laser printers on the stocks. ARM chips make for very fast yet cheap laser printer controllers. Particularly so since a US company called Bauer Technologies once wrote a PostScript clone for the ARM. Bauer was later

WHO KILLED ULOPA'S PATER?

Do not confuse Twin Worlds with Twin Peaks. There is no squeaky-voiced Lucy, no log lady, no broken necklace. The best Twin Worlds can manage in that department is a broken amulet and a bunch of extremely strange monsters. It's a fairly standard graphic adventure, though each ground level section has a subterranean 'town' too. There are beasties to kill and objects to collect as usual, with magic spells (if I didn't know better I'd say they were coloured tennis balls) to help.

Cute animation of the snub-nosed central character, Ulopa, is one of the primary features of the game. He walks, leaps, crouches and casts the magic spells with a lovely loose-limbed style, and I like the way he skids to a halt if you change direction rapidly. The scenery is good too, in atmospheric shades of ochre andumber.

Another innovative ingredient is the merchant - you'll have to buy items from him in order to proceed more than a little way in the game. He's



• Twin Worlds: the archimedes answer ■ Twin Peaks?

summoned to you with a flute - nice idea, but the flute should charm the animals too, like Papageno.

Once again, this game is a port from a 16-bit machine but is none the worse for it. UBI Soft and Cygnus Software deserve a small pat on the back and a few sales for their efforts.

Twin Worlds will leave you 5p change from £20, and Cygnus is on 0533-559711.

bought up by Microsoft, and Apple and Microsoft have since penned an agreement to share Apple's TrueType font software and Bauer's TrueImage PostScript clone...

It's like the sea innit? Up top, calm and serene. Underneath, big fish swimming about.

MILES BETTER WITH SHELL

Simtron has hardly been heard of since it originally released Archway 4GL. But now comes version two, resplendent on four gaily-coloured discs. It's still a test version, but the real thing should be only a matter of weeks away.

Without a manual, I haven't been able to delve too deeply. But in essence, Archway is a shell or skeleton program which you flesh out by adding your own Basic. The skeleton takes care of all the tough stuff - windowing, loading files by dragging icons, displaying Draw files and so on. All you add is the nitty-gritty routines to do the 'real' work.

It doesn't eliminate programming, but it does make it much less of a chore to deal with the 'user interface'. There are pre-packaged routines in the shell to deal with menus, for example; and a special editor to add options to call your own procedures. There are lots of examples to tinker with, and all the tools are built using Archway itself.

If you spend a lot of time writing Basic programs, and you want a shortcut to making them work on the desktop, multi-task and transfer data to other applications, Archway could be £100 well spent. Enquire further on 0342-328188.

BACKUP BLUES

There are lots of back-up utilities around, and yet another fell onto the mat recently. HardBack from Circle Software (0793-770021) costs £29 and makes a competent job of copying all your files onto a huge pile of floppies. It formats new disks as you go along, splits long files over multiple disks, and does either full or incremental back-ups.

What it doesn't do is compress the files. Fifty-two floppies to backup my 40MB hard disk does seem a little excessive. I still prefer Beebug's Backup software, which keeps a list of file types, and compresses those you mark. It cuts down the number of floppies you'll need by at least a fifth, and doesn't take any extra time.

ALL AT SEA

In your System folder, there are a number of modules - Colours, CLib, FFEmluator and so on. Whenever you get a new application, it's important to keep all the modules up to date. Compare the dates or version numbers of the modules and only keep the latest ones. To check on the version number, double-click on the module and they type 'help modules'. But one or two problems do crop up. It's important to make sure that you don't use anything too recent - there are copies of the C library later than version 3.5 around for example, and these can stop your software working properly. I've had problems with First Word Plus and PipedReader, for example, that have been cured by returning to the standard C library version 3.5.

Ken Coumarin



BLINKING OBVIOUS

Blinking on the screen may be an effective method for grabbing attention but it's a lousy colour - what's more, if it lasts more than a second or two it drives users up the wall. Much more useful would be a means of replacing the blinking attribute with a new colour. Eight of them in fact. By default the BIOS sets a blank attribute bit to ON when the machine boots up but you can easily turn it off again. For high intensity background colours instead of black you need to disable this blink attribute. This extremely curt DEBUG listing will do that very thing.

```
NBLINKOFF.COM
RCX
OB
B
MOV    AH, 10
MOV    AL, 03
MOV    BL, 00
INT    10
MOV    AX, 4C00
INT    21
```

Save this as an ASCII file called BLINK (the blank line is important). Use a text editor or word processor in non-document mode (or anything you

currently use to write batch files). Once written feed it into DEBUG with the following command (or the command line after the prompt - you know how to do it):

DEBUG < BLINK

Run the resulting file and then try something that used to blink - it should be much calmer now.

Particularly hairy QuickBASIC programmers who have a mouse will find that they often lose the mouse cursor. This is annoying. However, a quick trip to the output screen (use the function key F4) followed by any key will return to QuickBASIC, will find everything jumpy-dory once again. In fact, almost any sort of foul up is corrected using this method since QuickBASIC reinitialises just about everything when it comes back from beyond.

CHIP TALK

They just can't seem to stop building whizzy new chips in the States. The latest is deeply shrouded in technical terms: "symmetric scalable multiprocessing" and "superscalar architecture" feature prominently in a chip just announced by NeXGen of California. Basically it claims to have built a system which contains more than

Memory Upgrades

Unforgettable Prices!

Power Computing - The Amiga Chip Shop
One Small Step for your

Amiga 500...

| | |
|---------------------------------|---------|
| 512 RAM Clock Card | £34.95 |
| 512K Card Without Clock | £29.95 |
| 1.5MB RAM Clock Card | |
| *SUPPORTS 1MB CHIP RAM* | £89.95 |
| 4MB Board with 1MB RAM | £139.00 |
| 4MB Board with 2MB RAM | £179.00 |
| 4MB Board fully populated | £249.00 |
| 6MB Board fully populated | £399.00 |

A Great Leap Forward for your B2000!

| | |
|-------------------------------------|-----------|
| Unpopulated 8MB RAM Board | £129.00 |
| 8MB RAM Board with 2MB | £219.00 |
| 8MB RAM Board fully populated | £379.00!! |

Ram Chips

| | |
|------------------------------|--------|
| 256x4 (For A590 et al) | £5.99 |
| 1MBx1 | £5.99 |
| 1MBx4 (For the A3000) | £29.95 |
| 1MBx8 Simm Modules | £45.00 |
| 1MBx8 Sipp Modules | £50.00 |

Amiga Printers

| | |
|------------------------------------|---------|
| Star LC200 Colour Printer | £229.00 |
| Star LC24-200 Colour Printer | £319.00 |

Amiga Floppy Drives

| | |
|------------------------------------|---------|
| 880K External Drive | £65.00 |
| 880K Drive + 512K Clock Card | £95.00 |
| A500 Internal Drive | £49.00 |
| Dual External Drive | £110.00 |

WE SUPPLY ATARI ST AND COMMODORE AMIGA COMPUTERS AND PERIPHERALS AT BEST PRICES! PLEASE CALL!

All items on this ad. may be ordered by postal mail order or by telephone.

We accept Access and Visa.

Please make cheques and P.O.s payable to Power Computing Ltd

POWER COMPUTING LTD

44a Stanley Street, Bedford, MK41 7RW

0234 273000

(5 lines)

Prices include VAT and delivery. Please add £7.50 for overnight courier delivery if required.

We reserve the right to change prices and product lines without prior notice.

24 SHOPPING EXPRESS



DATAPLEX COMPUTERS LTD.

129 Bath Road, 19 High Street
Slough, Swindon,
Berkshire, Wiltshire
SL1 3UW

Tel: 0753 35557 Tel: 0793 488448

AMIGA A500 HARDWARE

| | |
|--|------|
| Amiga A500 Screen Gems Packs + free disks | £317 |
| Amiga A500 1 Meg Class of 90's | £459 |
| Amiga A500 1 Meg Class of 90's (First Steps) | £459 |
| SPECIAL OFFER | |
| Amiga A500 Screen Gems + 1 free box disks + 512K RAM (1 Meg) | £349 |

ATARI COMPUTERS

| | |
|---|------|
| Atari 520STFM discovery pack includes 4 games | £240 |
| Atari 520 STE Turbo Pack includes basic STOS and 7 games + Joystick | £310 |
| Atari 1040 STE extra pack includes ST Words, ST Calc, ST Basic, ST Graphics, Hyper-Paint, STOS, 1st Basic, Print Game | £399 |
| AMIGA/ATARI DRIVES | |
| 1 Meg 3.5" internal | £49 |
| 1 Meg 3.5" external | £60 |
| 1 Meg 5.25" external | £90 |

ACCESSORIES

| | |
|-------------------------------|-----|
| 512K Ram + clock | £39 |
| Joystick | £10 |
| 10 Blank disks in library box | £8 |
| Mouse Mat | £3 |
| Naksha Mouse | £23 |

MONITORS

| | |
|---|------|
| Philips CM8833 MK II Colour Monitor + Lead (Hi Res) | £199 |
| SM 1224 (Atari) | £205 |
| SM 124 (Atari) | £99 |

PRINTERS

| | |
|-----------------------------------|------|
| Star LC10 Mono | £128 |
| Star LC200 Colour (9 pin) | £180 |
| Star LC24 200 (24 pin) | £219 |
| Star LC24 200 Colour | £259 |
| Star LC24/10 | £189 |
| Panasonic KXP124+ lead | £199 |
| Panasonic KXP1624 | £329 |
| Citizen 120D + | £120 |
| Citizen 124D | £189 |
| Citizen Swift 24 + Colour Upgrade | £259 |
| Citizen Swift 9 + Colour Upgrade | £185 |
| Epson LX400 | £126 |
| Epson LQ400 (24 pin) | £199 |
| Epson LO 550 | £260 |
| LQ860 Colour | £509 |

RIBBONS

PLEASE CALL FOR PRICES

one microprocessor running a program concurrently that will – run DOS programs unchanged. Present co-processor cards for the PC require special software; adding an i860 to your PC won't speed it up one iota unless you are prepared to rewrite all your programs.

The new chip is in fact a set of chips, and up to four sets can be linked together giving a system with the power of more than double that of a 486. The firm hopes that computers using the system could turn up as early as the beginning of next year.

PROBLEM PCS

We all have problems with our machines from time to time. In fact many of us have problems most of the time. Take my machine for example, the poor little bugger has every kind of software under the sun installed on it for review and dozens of obscure expansion cards have been slotted in and out. After a while the CONFIG.SYS and AUTOEXEC.BAT files look like a battle ground, and inevitably pieces of software clash with another causing spectacular system failures.

PC TROUBLESHOOTER



** Could this book hold all the answers to your PC headaches?*

I think it's a fair bet that your machine has suffered from the same kind of thing, so what can you do about it? The only answer, I'm afraid, is to have a thorough technical grounding in the way the PC works. The most convenient way of getting that is to buy a book.

Ian Sinclair is one of the most prolific of computer book authors, and his latest could just be the volume you are looking for. Entitled PC Troubleshooter, it claims to hold "remarkably simple solutions" to many PC problems. Because of its problem-solving nature this is not a book for bedtime reading, but it is a useful reference to have by the side of the machine when it goes bang.

PC Troubleshooter costs £12.95 and is published by Sigma Press, ISBN 1-85058-216-5.

PAPER KEYBOARD

Have you ever filled in one of those magazine questionnaires where you have to tick hundreds of boxes? Tedious aren't they? Well you want to try being on the other end of it. I have several hundred lined up on my desk right now trying to analyse me. It's an appealing thought.

What makes it worse is the package which has just turned up on my desk from US firm Datapac, called Paper Keyboard it is a system for analysing forms with a scanner. Running under Windows, this software can also read handwriting, as long as it conforms to certain guidelines. Being a Windows program, it can export the data it gathers via DDE linkages.

This all sounds wonderful, but you need to design the forms with Paper Keyboard in mind, so it can't help me with the Express questionnaire. Maybe next year.

Paper Keyboard costs \$895 in the US and you can contact the firm on 914 347-7133.

GOOD SPREAD

Last week's news about the slashing of SuperCalc from £400 to £80 is extremely good news for all concerned. PC prices have been unduly inflated for a while now, with ordinary individual users being excluded from the most functional software, even when it's as basic as a spreadsheet or word processor. It's easy to justify the high price of extremely powerful software with multi-user networked interfaces and the like, but for software designed to write letters with prices of half a grand are, well, taking the piss. Let's hope more firms follow Computer Associates' lead.

Stuart Anderton and Steve Patient

MICRODIAL

ATARI

| | |
|------------------------|---------|
| 520STFM DISCOVERY PACK | £279.00 |
| 520STE TURBO PACK | £369.00 |
| 1040STE EXTRA PACK | £460.00 |
| PORTFOLIO | £199.00 |
| LYNX | £165.00 |

COMMODORE

| | |
|------------------------------------|---------|
| A500 SCREEN GEM PACK | £369.00 |
| A500 CLASS OF THE 90'S PACK | £515.00 |
| A500 CLASS OF THE 90'S FIRST STEPS | £515.00 |
| PC STARTER PACK | £515.00 |
| 1 MEG SCREEN GEMS | £440.00 |

PRINTERS

| | |
|-----------------------|---------|
| STAR LC-10 | £169.00 |
| STAR LC-24/10 | £249.00 |
| MANNESMANN TALLY MT81 | £147.00 |
| CITIZEN 120D + | £125.00 |
| SEIKOSHA SP2000 | £235.00 |

SOFTWARE UP TO 20% OFF RRP

THIS IS A SMALL SELECTION OF OUR WIDE RANGE - PLEASE PHONE - WE WILL TRY TO MATCH ANY PRICE

All prices include VAT and P&P, Courier Delivery add £8.

Please make cheques, P.O.'s payable to **"MICRODIAL"** and send to:

THE OLD CAMP SHOP, WARRINGTON LANE, ADGEN WHARF, LYMM, WARRINGTON, WA13 0SW.

All items are subject to availability, prices are subject to change without notice. All goods despatched upon cleared payment. Proprietors: Mike Todd and Mal Neary. E. & O. E.

24 HOUR ORDER LINE 0925 75 7696

SIX INTO TWO WILL GO

Two of the best deals to appear in the last couple of weeks have come from The Disc Company, an American based software outfit with European offices in Paris. It has released two compilation cartridges of games called Power Pack and Fun Pack, each containing three juicy little titles from times past.

Fun Pack brings together three old Codemasters titles, Dizzy's FastFood, Pro Skateboard Simulator and Pro Tennis Simulator. There's no question that the combination is a goodie (especially Dizzy's FastFood which is marvellously manic) but if I'm not mistaken, the prices at which those

titles are still available on cassette form make the value of a £24.95 cartridge just a little suspect. No doubt this will be corrected in due course by the deletion of the games from the Codemasters lists.

No sword of Damocles hangs over the Power Pack though, for once in this ridiculously hyped industry, lives up to its name. Stunt Car Racer is top of the bill, if you play the driver of a fairly robust but by no means indestructible machine which drives around the precariously raised tracks of a the Stunt Car League. These tracks, predominantly oval in shape, are twisted, humped and broken by



POWER PLAY
FEATURING 3 EXCITING GAMES
STUNT CAR 20
RICK DANGEROUS
MICROPROSE Soccer
ENGLISH VERSION

* The Disk Company, whose European operation is being head up by an ex-chairman of Microprose France, is backing the new C64 cartridge series. Three cheers for TDC, please cavernous drops which make the task of completing a lap enough of a hair-raising prospect without even taking into account the computer controlled devil-driver against whom you compete. Highly playable and demanding.

Microprose Soccer is the mid-field offering and, apart from the fact that a good many GS owners at least will already have Commodore's own International Soccer, provides a great addition to your games collection. It comes with 16 teams from which to choose and the option of a two-player game which you'd be a fool not to try.

Completing the line up and saving the best till last in the process is the original arcade adventure starring the man with the hat, Rick Dangerous. Like Fun Play, the second cart also costs £24.95.

THOSE THAT HAVEN'T MADE IT... YET
The way Total Recall is going it looks as though Ocean is going to be able to tag a number two onto the title and it might just get it out in time for the sequel. Line of Fire, on the other hand, went in for critical life-saving surgery a couple of weeks ago. A spokesperson for US Gold admitted that the graphics on the 64 were sub-standard and that a crew of computer graphic artists were going to work for seventy-two hours non-stop to try and rectify the situation. Nothing has been heard since.

I've seen screenshots for the 64 version of Dick Tracy but it's too late for this game to cash in on any hype for the movie (unless the video release is imminent). When the game is finally released it will almost surely stand or fall on its own merits.

A BREED APART

Following several assurances on telephone that 'it was in the post' Activision's Dragon Breed finally made it on the review desk this week. Licensed from the IREM coin-op original, the game takes the form of a horizontally scrolling shoot-em-up in which you control the flight of an ornental dragon and its rider.

The dragon kills its foes with either fire from its mouth or a swipe of its tail deftly delivered to any foe in tow.

Sean Masterson

Hayes V-Series SmartModem 9600 £399
Yes it's true... a real Hayes 9600 baud Smartmodem for only £399 inc VAT. These are brand new, boxed and with full UK Warranty.

High-Res Stereo Monitor Amiga £199
The Monitor is the ProFex CM14S Plus 14" with stereo speakers, Scart socket (so it will work with the ST, STE, Archimedes etc), built in tilt & swivel base, and supplied with an Amiga cable only £199 inc VAT.

3" DISCS FROM ONLY 99p Inclusive

We have one shipment (5000 discs only) of Bulk 3" discs, we will offer these at the following prices, but it is first come first served! 10 Discs £12.50 50 Discs £57.50 100 Discs £99.00 These prices include VAT and carriage.

3" BRANDED DISCS FROM ONLY 37p

PROFEX 3" DSDD Discs, boxed in tens, with labels
1-5 boxes £3.99 each 5-10 boxes £3.85 each
10 or more Boxes £3.75 each
PROFEX 3" DS high density discs, boxed in tens with labels £8.99 each
PROFEX 5" DSDD discs, boxed in tens with labels & sleeves £2.50 each
(Postage on discs: 1-2 Boxes £1, 3-5 £1.50, 6 or more £3.00)

AMIGA 1500 OUTFIT ONLY £899 + VAT

The Amiga 1500 includes the famous Amiga 2000 base unit with 16MHz Chip Ram two 3" floppy disc drives, built-in, AT style keyboard, Mouse, D/Paint 3. The Works Platinum, Sim City + Terrain Editor, Populous + Promised Lands, Their Finest Hour, Battle Chess, High Res Steren colour Monitor.

All you need to Work, Rest and Play..... £899 + VAT

Once Byten
39 Marling Way
Gravesend,
Kent DA12 4BW
Tel: 0474 567964
Fax: 0474 537172



WEHNERS UTILITIES

**FOR THE PCW
8256 & 8512**

Also 9512 with Epson type printers

Type setting, screen control/
printer control -
Machine code source files

Examples of Basic,
lots of useful features
Inner six ring personal organiser
with printer instructions

"ALL IN PRICE ONLY £34.00"

Cheques & PO payable to:

WEHNERS I.O.M.

37b New Cavendish St,

London,

W1M 8JR

Tel: 071 486 5353.

Spectrum

BUMPER BARGAINS

Call me an old scrooge if you want but I think compilations can often offer excellent value for money and if I hadn't already bought lumps of coal for all my friends and relatives that's what I'd buy them this Christmas. One particularly good bumper bargain package is *Challengers* from UBI Soft, which comprises six games of a loosely simulation based nature.

You can really feel the quality in all of them with the only slightly dodgy game being *Pro Tennis Tour* and that's a not too bad at all effort at Spectrumising tennis, apparently. The rest are very good indeed though. *Kick Off!* on the Spectrum didn't really live up to its 16-bit counterparts but it's still a playable enough footy sim that should save you from having to watch Tarby's Christmas Funtime Special over the festive holiday.

Also good is P47 which you might have missed first time around due to the fact that it doesn't fit in with a film or come with an endorsement from Bob Holness. Shame on you if you haven't got it because it's an addictive if straightforward formula horizontally scrolling shoot-em-up with the usual load of badies and add on weapons.

There's another flying game, but this time in a cockpit viewed flight sim

with lots of shooting called *Fighter Bomber*. I haven't played this myself but Your Sinclair liked it's range of missions and the emphasis on blowing things up.

The best two of the lot though are *Rick Dangerous* and *Carrier Command*. The former's a wizard platform and ladder affair with you controlling an Indiana Jones-type hero. It's great fun and reviewers practically fell over themselves to rave about it a year or so ago when it was first released. *Carrier Command* was my favourite game of last year and it's frightening depth and devilish mix of strategy, simulation and honest to goodness shooting things was truly fab in my opinion.

Well in all it's an excellent compendium of some of the better alternative (ie not big name licensee) titles of the last year or so.

PSST...WANNA NEW PLUS 3

The dear old Plus 3 might have popped its clogs a while back but you can still get hold of brand new ones you know.

Microsips of 37 Seaview Rd, Wallasey, Merseyside L45 4QH is selling the Plus 3 with a fair few bonus things. For £199 (plus £10 P&P) you get a big box containing some pretty good games - *Pac-Land*, *Thunderbirds*, *Pachman*, *Arctic Fox* and *Scramble*.

Spirits, five blank disks, a hand held LCD game, a non-Amstrad joystick and a cassette lead as well as a Plus 3 of course. That's certainly better than my packages Amstrad ever came with for the machine.

If you're not worried about getting all the extraneous things Omnidale Supplies (23 Curzon St, Derby, DE1 2ES) are selling Plus3s for £169.95. A veritable bargain make no mistake about it.

FILES OF POKEs II

Last week a nation thrilled to the printing of loads of programming pokes in this column. Here's some more hints of a decidedly technical nature from a chap called Robert J. Baker according to whom all the following seemingly insignificant figures are PEERS/POKES that work on Sinclair Spectrums and probably most standard ones as well:

- 23561 - contains the CODE of the last key pressed if it was detected by an interrupt, handy for machine code programmers

- 23560 - contains the CODE of the delay before the keyboard starts repeating and 23562 is the delay between repeats, both in units of seconds.

- 23563/4 - during the DEF FN evaluation, points to the list of arguments being evaluated (a useful way of passing ■ machine code an argument list which is fixed in number and type).

- 23005/7 - points to the current ASCII character definitions (Space to Copyright) usually in ROM but can be user defined.

- 23527/8 - is the start of the variables area.

- 23639/40 - is the address of the last data item read.

- You can find the address of any program line by typing:

RESTORE n PRINT PEAK 23639+ 256*
PEAK 23640+1)23658
of which perhaps the most useful to the programmer is bit 3, the Caps Lock flag (POKE 23658 with 0 to set Caps Lock and with 1 to clear);

- 23899 - is the number of lines in the lower screen.

- 23070/1 - is the speed of the random number generator, set by RANDOMIZE. If 23572/3/4 - is the time (in fifths of a second) since the last system reset, or any other event which cleared this counter (such as user programming)?

- 23675/6 - points to the UDG area (usually above the initial RAMTOP but can be switched)

- 23677/8 - are the co-ordinates of the last point PLOTTED. Thanks Robert!

Just so you wicked and decidedly rad crackit-wagglings types don't feel left out here's some muliface pokes for Super Hang On. Much thanks to Mike Goldrick for sending them in. The first poke for each stage gets rid of roadside obstacles and the second figure takes care of the other motorbikes.

Stage One - 23675,201 48803,201
Stage Two - 24108,201 48553,201
Stage Three - 24090,201 48536,201
Stage Four - 24734,201 48680,201

Robin Alway

BLACKMORE ELECTRONICS SAY BUILD IT YOURSELF

MOTHERBOARDS

XT TURBO 12 MHz V20, small size takes 256x 4 DL £62.10

AT TURBO 12MHz baby size up to 4M on board £158.00

AT TURBO 15MHz version £205.00

AT TURBO with EMS 12MHz, up to 5Mb on board £188.00

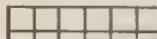
386SX ALL-IN-ONE 16MHz includes floppy, serial and parallel ports. Takes 1M x £399.00

Memory is available for all these boards.

Please call for current prices

KEYBOARDS

101 key XT/AT switchable £46.00
101 CHERRY X/T/AT £65.00



**BLACKMORE
ELECTRONICS
LIMITED**

VISA ACCESS
AMERICAN EXPRESS
0296/456840

DISK CONTROLLERS

Universal floppy

Drives 360/1.2/720/1.44 drive suitable for

AT and 386 systems £24.50

XT Hardfloppy controller £81.00

XT Hard disk controller £65.00

AT floppy/Hard controller £107.00

CASES AND PSUS

XT/AT Three 5.25" and one 3.5" slots for disks, flip top lid £44.50

Suitable 150W PSU £24.70

DE-LUXE with speed display £65.00

Suitable 200W PSU £69.00

MINI TOWER with speed display £72.50

Suitable 200W PSU £69.00

CONTACT US NOW

DISPLAY ADAPTERS

Hercules plus printer £39.20

Dual CGA/HERC £38.00

EGA PLUS £99.50

VGA 8 bit £99.00

Universal VGA 8/16 bit

VGA, EGA, CGA, MDA, Hercules

Standard plus 800 x 600 plus

1024 x 768 resolution £137.00

I/O ADAPTORS

Serial RS232 £16.10

DUAL RS232 £24.10

Serial/parallel game com 1,2,3,4

PAR, 2,3 links £14.50

Dual serial + par + Game £25.00

XT SERV/PAR/CLOCK

FLOPPY/GAME £31.50

FLOPPY DRIVES

5.25" 360K £66.70 5.25" 1.2M £80.50

3.5" 720K £71.76 3.5" 1.44M £85.56

5.25" cradle for 3.5" drive with adapter cables £12.50

SKELETON SYSTEMS

These consist of motherboard, case

and PSU. You add the rest!

XT 12MHz £155 AT 12MHz £250

AT 16MHz £305

PC - DIY BOOK

ONLY £7.95

NO VAT OR P & P

Not sure how to build your own PC?
Then this is for you!

112 Pages of practical tips.

**BUILD YOUR OWN VIRTUAL REALITY**

For some years now Incentive has been known for its development of Freescape, a 3D graphics programming technique that has given the world a series of excellent games, including Total Eclipse and Castle Master.

Now Freescape is being made available to all, Incentive has created a user-friendly version of the program which enables any ST owner, without knowing the first thing about programming, to create solid moving 3D objects in real time and to explore them as if they were real.

I've seen a prototype of the project, and I have to say it could well be the most exciting software release for the ST of 1990. Using a combination of pull-down menus and button-type icons, it's possible to create a standalone game as complex and entertaining as Castle Master.

That, however, is just one application for the software. On my journey home from Incentive's Aldermaston HQ, for instance, I heard on the radio of a project that enables trainee surgeons to simulate operations on screen, something that 3D Construction Kit would be quite capable of handling.

And then there's all this stuff about virtual reality, which I must admit I understand little and care about less. But think about the possibilities! You can sit down and create a game containing dozens upon dozens of locations that features moving 3D objects, puzzles and traps, yet without having to master any programming at all. When you've finished the game it is a standalone program that doesn't need to see 3D Construction Kit itself.

Even better, there's no licensing or copyright involved. So you could soon be selling your own complete games! (Actually I sell a teeny weeny fibber there, for when you're creating the game you'll want to impose conditions on certain objects, such as "When this door opens, transport the player to location X.") This does involve the merest hintette of programming, something like "if shot, then goto x." It must have been exceptionally lowgrade stuff, though, because even I could follow it quite easily.)

3D Construction Kit is not due for a while yet - I'd guess it's going to be Easter before it arrives - but when it does it's likely to raise a lot of eyebrows. It's set to cost £39.99.

TV AIM

Did you see the Bitmaps on Motormouth the Saturday before last? I thought they came over fairly well, although to be honest I don't know how much the average 13 year old is able to identify with Mike Montgomery, who looks more like a nanoo than a teen idol - where was young gun Eric Matthews when they needed him?

Funny how predictable the coverage was, though, with the career teenage Scouser who was asking the questions inevitably pursuing the "You scallies some kind of boffins or what?" line of interviewing.

EYE OPENER

David Crawford has developed what is claimed to be the ultimate colour digitising software for the ST. To use it you will of course still need a video camera, as well as Rombo's excellent

Vid-ST digitiser. Divichrome costs £19.95 from Dave Crawford, 8/6 Hay Rd, Edinburgh, Scotland EH16 4QA.

A WORD FOR SETH

For the past six months Seth Dashper of Nottingham has been an avid ST follower. Now Christmas is, as he so rightly points out, nearly here, but his chances of receiving a 1040STE are going down the drain.

The reason? Because Seth's parents seem to think that he would sit in front of it, wasting away his brain cells playing games. "So could you please, please, please [insert yawning] please," he begs, "put it in a word or two for me!" The thing that seems strange is that why would I want a mono monitor and a printer to kill aliens with?

Seth does have a point, Seth's parents. In my capacity as a computer expert of the highest calibre, I have to

| | | | | |
|-------|-------|-------|--------|------------|
| RED | LORD | ERVIS | DELETE | DISPLAY |
| GREEN | RED | DDU | SPJ | GRAB VIDEO |
| BLUE | POI | PEI | SPE | SLUT 2-5-3 |
| SPI | FIRST | NEED | SLIM | NEED |
| END | SP/60 | OTHER | | R |

DiviChrome
© 1990 DIC SOFT
ALL RIGHTS RESERVED

* The menu screen from Divichrome, which claims to be state of the art ST digitising software.

ARTISTS

Can you draw, or what?

We need talented artists to produce bitmap graphics for CDTV games, using latest technology.

Don't be put off if you haven't had anything published yet - we have work available for anyone with real talent.

Send examples of your best work on disc or paper to -

Creative Materials Limited

Attn: Nick Vincent
28 Church Lane
Prestwich
Manchester
M25 5AJ

Please note! We cannot deal with applications over the phone.

BANANAS

Are not distributed free to our programmers, but we do have a number of original games and conversions available for placing with experienced coders.

If you are a member of the species Homo Sapiens, why not write with your details to -

Creative Materials Limited

Attn: Nick Vincent
28 Church Lane
Prestwich
Manchester
M25 5AJ

Creative Materials - We won't make a monkey out of you.

say that it is my professional opinion that Seth will grow up psychologically and emotionally stunted if he does not get a 1040STE, if not this Christmas then certainly within the next year.

But to be serious, it is a fact of life that the ST is sold generally as a games machine, though it is capable of much, much more: graphics, education (there are over 200 educational packages for the ST), desktop publishing (I know of more than 20 fanzines and magazines produced solely on the ST) and programming, to name but four non-alien-zapping-related activities.

SETH'S PS

"PS," writes Seth, "Is it possible on a TT to run Windows 3.0 at Speed without having to scroll the screen?" I can answer this question with absolute confidence: I haven't the foggiest idea.

FOURPLAY FOR KIDS

From Codemaster's comes Quattro Sports and Quattro Arcade, two £12.99 compilations that may just help you sort out those "What prezzy shall I buy?" blues. Or not, depending on how discriminating you are.

Sports includes BMX Simulator, Advance Ski Simulator, Pro Tennis Simulator and Italia 1990, the game that gave the lie to the courageous belief that Codemaster games have a tendency to have Simulator in the title.

Arcade includes Pro Powerboat Simulator, SAS Combat Simulator, Pub Trivia Simulator and Nitro Boost, the game that finally nailed the lie that



* What a barg! Four games, some of them not even totally crap, for half the price of a single full-price game

Codemaster gamers have to have Simulator in the title to get released.

Coming soon from Codemaster: the game that gives you the chance to pretend to release a blizzard of games at a few coppers a throw, Codemaster's 'Compilation Simulator Simulator.'

NEW SCANNER

Here's a deserving date for your diary. The weekend of 9 and 10 February 1991 sees a major show organised by Ashurst Computer Club of Skelmersdale, West Lancashire, hoping to raise what organiser Peter Clarke calls an "absolutely obscene amount of money" for the Ormskirk and District General Hospital CAT Scan Appeal.

The Show may be for a good cause but it also promises to be a real value for money experience. Besides a complete MIDI demonstration and explanation session, repeated throughout the Saturday of the show, there's also expected to be various game challenges, including Leaderboard Golf, Kick Off and Lotus Esprit. There's also an unusual consumer test element to the show, with a whole variety of joysticks getting a 24-hour pounding.

Ashurst Computer Club has set itself a huge task, and I'm sure its members would welcome assistance from anyone who feels so inclined. If you live near enough to be able to help this excellent cause, get in touch with organiser Peter Clarke at 11 Heversham, Birch Green, Skelmersdale, West Lancashire WN8 6QJ.

Steve Carey

ATARI ST ★ ATARI ST ★ ATARI ST ★ ATARI ST ★ ATARI ST ★ ATARI
A brilliant offer for readers of New Computer Express!

Devpac ST 2

FROM HISoft ONLY £44.95

Devpac ST Version 2 is widely regarded as the most powerful assembly language development system for the Atari ST. It incorporates a debugger, stand-alone assembler and a fast linker

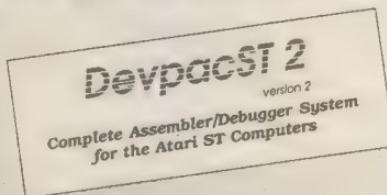
IT INCLUDES:

- **GenST** Assembler is a high-performance, full-featured, two-pass Motorola standard macro assembler at up to 75,000 lines per minute. It has multiple modules and sections, repeat loops and macro calls that maybe nested as deeply as memory allows.
- **MonST** Debugger is an advanced symbolic monitor, debugger and disassembler. Now in addition it can offer Multiple window display, full expression evaluator, up to 22 significant characters in symbols, viewing of source files and conditional breakpoints.
- **Example Files** of a wide variety including a full GEM type windowing application and an example desk accessory.

The package comes complete with an extensive ring-bound manual plus notes on the various operating system levels and debugging strategies.

Order now by phone from the NCE mail order service or send the coupon to our FREEPOST address.

HOTLINE NUMBER 0458 74011



**SAVE
£15**

Yes, I would like to order a copy of Devpac ST 2
Name _____

Address _____

Tel No. _____

I would like to pay by Access Visa
Cheque PO

Please debit my credit card
No. _____

Expiry Date _____

Tel. No. _____

Send & make cheques payable to Future Publishing, FREEPOST, The Old Barr, SOMERTON, Somerset. TA11 7BR

SPECIAL OFFER FOR CHRISTMAS

AMIGA A500

Flight of Fantasy
or
SCREENGEMS
(please specify)

+

MIDI HIFI

Tape to tape, tuner & record deck

All for just

£359.99

(excluding VAT & del.)

Cheques/Postal orders to

TECHNICAL SUPPORT SERVICES

3 Adelaide St, Burnley, Lancashire, BB11 5AU
Tel: 0282 25556 (7 days) Fax: 0282 26710

NINTENDO OWNERS!

AMERICAN No1
ARCADE HITS

NOW AVAILABLE FOR EUROPE

ATARI GAMES from TENGEN -



SUPER SPRINT - £34.95

GAUNTLET - £34.95

VINDICATORS - £39.95

ROLLING THUNDER - £39.95



BAD DUDES - £39.95



TRADEWEST

DOUBLE DRAGON - 39.95

America's greatest arcade hits converted by UNITEC to work on all UK/European NINTENDO systems. In stock now and available only from UNITEC.



Order now - be first with the best.

By Post, with cheque or postal order

United Systems Ltd., 8 James Street,
Helensburgh G84 8AS, Scotland

Hotline - Tel: 0436-79123



NINTENDO ATARI TENGEN DATA EAST TRADEWEST UNITEC LTD. TRADEWEST TRADES WITH THE TRADE. TRADEWEST IS A TRADEMARK OF NINTENDO OF AMERICA INC. © 1990 UNITEC LTD.

WAREHOUSE
CLEARANCE

XEROX

A unique opportunity to purchase Professional products at greatly reduced prices

-Leaflets Sent On Request-

LASER PRINTER

with inbuilt Photocopier

*10ppm *HPLaserJet*

*Low cost Toner

512K RAM 1MB RAM

£650 £750

3 months
on-site warranty

Xerox 4045R

Normal Price
£1,995

INKJET COLOUR PRINTER

* Hi-Res, Versatile Performance

*Ideal for Amiga Users (4096 shades)

*Optional Sheet Feeder

*Parallel Interface

£599

3 months
warranty

Xerox 4020

Normal Price
£1,200

VENTURA (V2)

*inc. Professional Extension

*3 1/2" & 5 1/4" disc sets included

*Xerox Users Helpline

*Brand new sealed stock

£245

Normal Price
£650

All prices exclude VAT and Carriage / Insurance. Order by phone for next (working) day delivery

Access VISA accepted.

COMMONSIDE

HARDWARE SERVICES LTD

Unit 13, 193 Garth Road

Morden Surrey

SM4 4LZ

081-330 7533
Fax 081-330 4838

AMIGA DEALS

AMIGA 500 STANDARD PACK

- * A500 computer * 512k RAM * 1MB disk drive *
- * mouse * modulator *
- * power supply * operation-manuals *
- * workbench disks, etc. *

ONLY £339.95



AMIGA 1/2 MEG UPGRADE BOARD

A590 HARD DRIVE

- * Uses latest 4 chip design
- * Memory on/off switch
- * Option of battery backed clock
- * Full 12 month guarantee
- * New super low price

£29.95

Clock Version

£34.95

£269.95

MOVE OVER TURTLES - ROBOCOP AND HIS PALS ARE IN TOWN!

ROBOCOP



BATMAN

INDIANA JONES

GHOSTBUSTERS II

AMIGA SCREEN GEMS PACK featuring ROBOCOP AND FRIENDS

Just Look At What You Get

- * Amiga as standard pack
- * Days of Thunder
- * Shadow of the Beast II
- * Back to the Future II
- * Nightbreed
- * Deluxe Paint II

- PLUS exclusive to Dowling
- * ROBOCOP
- * BATMAN the Movie
- * GHOSTBUSTERS II
- * INDIANA JONES and the Last Crusade

All for the incredible price of **£369.95**

THE ALL NEW

ULTIMATE GAMES PACK

Take the pack on the left featuring RoboCop etc and add the following:
EXCLUSIVE DOWLING MEGA TEN GAME PACK comprising RVF

HONDA, DATASTORM, DUNGEON QUEST, E-STORM, GRAND MONSTER SLAM, KID GLOVES, POWERPLAY, SHUFFLEPACK CAFE, MICROPROSE SOCCER, TOWER OF BABEL

Total RRP of games over **£229**

PLUS

- * Megablast Joystick * High Quality Mousepad * Dustcover

All for the unbeatable price of **£399.95**

DOWLING

AMIGA "FIRST STEPS" EDUCATION PACK

- * Amiga as in standard pack
- * A501 0.8MHz upgrade
- * Pre-write 2.0
- * Deluxe Paint II
- * Deluxe Print II
- * Infofile
- * Music Mouse
- * Amiga Logo
- * Talking Tapes
- * Let's Spell at Home
- * BBC Emulator
- * Ten CBM disks

All this for just **£529.95**

NEW COMMODORE 64 NIGHTMOVES/MINDBENDERS PACK

Comprises:

- * The worlds best selling home computer - the Commodore 64 * C2N cassette unit * 2 joysticks PLUS: Nightmoves games * Nightbreed * Shadow Warriors * Midnight Resistance * Secret Agent Sly Spy * Mindbenders games * Trial Pursuits * Share * Confusion * Split Personalities

ALL FOR JUST **£149.95**
Plus FREE exclusive to Dowling
"Music Studio Software Pack"

Whilst stocks last!

THE NEW 200 SERIES FROM

star

"The best printers just got better!"

RRP £297.85

OUR
PRICE
£199.95

LC200 FACT FILE

- Multi-purpose 9-pin, 80 column dot matrix printer with colour
- Black and colour ribbons included as standard
- Electronic dip switches (see LC24-200)
- 10 resident Letter Quality fonts
- High speed draft facility of 22 cps at 10 cpi
- High speed selectible push or pull tractor
- Bottom feed
- Advanced paper parking with sheet feeder installed
- Eight resident NLQ fonts: Courier, Sans serif, Oldstyle, Script and italic versions

RRP £366.85

OUR
PRICE
£239.95

LC24-200 FACT FILE

- Versatile 24-pin 80 column dot matrix printer
- 200 cps at draft, 60 cps in Letter Quality mode
- 10 resident Letter Quality fonts
- A high speed draft facility of 222 cps at 10 cpi
- Swivel selectable push or pull tractor
- Advanced paper parking with sheet feeder installed
- The economy of first and fast line printing
- 7 1/2 byte buffer expandable to 39 K bytes
- 12 resident NLQ fonts: Courier, Sans serif, Oldstyle, Script and italic formats
- Multi-part mode for 1 to 4 copies

RRP £424.35

OUR
PRICE
£279.95

LC24-200 COLOUR FACT FILE

- Multi-purpose colour version of the 24-pin LC24-200
- Seven colour printing: black, purple, orange, green, pink, blue and magenta
- 10 Kbyte buffer expandable to 62 K bytes
- 10 resident Letter Quality fonts: Sans serif, Times Roman, Courier, Oldstyle, Script and italic
- Electronic dip switches (overdrive from the push button front control panel) (as the LC24-200 monochrome version)
- Optional font cards including Russian
- Standard black ribbons available for economy purposes

COMPUTERS

UNITS 48-50 TYNÉ ROAD, SANDY, BEDS, SG19 1SA

Being Star registered dealers we only sell official UK machines which come with a full 1 year guarantee. Beware of inferior imported products.

PRINTERS

| | | |
|---|---------|---------|
| Star LC10 Mono 144/36 cps | £229.95 | £149.95 |
| Star LC10 II 25% faster version | £263.35 | £169.95 |
| Star LC10 colour 7 colours | £289.95 | £189.95 |
| Star LC10 24 pin printout | £343.85 | £229.95 |
| Star LC24-10 wide carriage version of LC24-10 | £573.85 | £389.95 |
| * Star FR10 300/76 cps, 31K buffer, 16 NLQ fonts | £527.85 | £369.95 |
| * Star FR15 wide carriage version of FR10 | £688.85 | £459.95 |
| * Star XB24-10 professional 24 pin series, 27K buffer | £688.85 | £459.95 |
| * Star XB24-15 wide carriage version of the above with 41K buffer | £907.35 | £599.95 |
| * Star LSD8 LASER PRINTER 1Mb Ram, 300 x 300 dpi | £217.95 | £139.95 |
| Star LC10 mono printer (auto) | £74.75 | £59.95 |
| Star LC10 mono ribbons | £5.95 | £3.95 |
| Star LC10 colour ribbons | £7.95 | £5.95 |
| Star LC24-10 ribbons | £7.95 | £5.95 |
| Star LC10 quality dust cover | £7.95 | £5.95 |

*12 months on-site maintenance

ATARI ST DEALS - Choose your own pack

DISCOVERY PLUS PACK

- * Atari ST Computer
- * Bomberman • Carrier Command
- * Duke Nukem • Space Harrier
- * First Basic • Neochrome
- * STOS Games Creator
- * ST Tour Tutorial
- * Discover the Atari ST
- PLUS - exclusive to Dowling
- * Konix Megablaster Joystick
- * High Quality Mousepad
- * Dust Cover

TURBO PLUS PACK

- * Atari ST Computer
 - * Anarchy • Blood Money
 - * Dragons Breath • H.K.M.
 - * Imperial Mission
 - * Indiana Jones • Outrun
 - * Super Cycle • First Basic
 - * Hyperjam II • Music Maker II
 - * STOS Games Creator
- PLUS - exclusive to Dowling
- * Konix Megablaster Joystick
 - * High Quality Mousepad
 - * Dust Cover

ULTIMATE GAMES PACK

- * Atari ST Computer
 - * All software listed in "Turbo" pack **PLUS - exclusive to Dowling**
 - * Unfinished • Asteroids
 - * Trivial Pursuit • Skivvek
 - * Pigmarama • Rock 'n' Roll
 - * Rick Dangerous • Dinslaught
 - * Live & Let Die • Chess Player 2150
 - * Live & Let Die • Chess Player 2150
- PLUS - exclusive to Dowling
- * Konix Megablaster Joystick
 - * High Quality Mousepad
 - * Dust Cover

| 520STFM | 520 STE 512K RAM | 520 STE 1 MEG RAM |
|-----------------------------|---------------------|----------------------|
| DISCOVERY PLUS PACK £259.95 | £329.95 | £369.95 |
| TURBO PLUS PACK £299.95 | £339.95 | £379.95 |
| ULTIMATE GAMES PACK £329.95 | £369.95 | £399.95 |

UPGRADED 520 STE DEALS

| 520 STE with 1 MEG RAM £349.95 | 520 STE with 2 MEG RAM £419.95 | 520 STE with 4 MEG RAM £499.95 |
|---|---|---|
| | | |

3 1/2" HIGH QUALITY DISKS

| | |
|---------------------------|--------|
| Box of 50 | £19.95 |
| Box of 100 | £37.95 |
| Box of 250 | £79.95 |
| Roll of 1000 labels | £5.99 |

- * 100% certified
- * Individually wrapped
- * "Made in Japan" Media
- * Fully Guaranteed

CUMANA CAX 354 DISK DRIVE "SCOOP"

| | |
|------------|--------------------|
| RRP £89.95 | SCOOP PRICE £59.95 |
| | |

ATARI ST VERSION £69.95

MUSIC X SCOOP

Music X Junior £79.95 £34.95

Music X 1.1 £149.95 £59.95

4 Port Midi Interface £29.95 £14.95

HURRY STOCKS LIMITED

COMMODORE 1084S OR PHILIPS 8833 MKII

- * Stereo Colour Monitor
- * Can be used as a TV with Tuner
- * includes Amiga/ST cables

RRP £299.00 OUR PRICE £249.95

TELESALES ORDER LINE 0767 681760 (8 lines)



HOW TO ORDER



BY PHONE

Simply call our head office quoting your Access/Visa number on

(0767) 681760

(8 lines)



BY POST

Make cheques, building society drafts or postal orders payable to:

Dowling Computers



DELIVERY

(UK Mainland, most areas)
Please add £6 courier delivery for orders over £100, add £2 p&p for orders under.



GOLD CLUB SERVICE

- * 7 day money back guarantee if not completely satisfied
- * 30 day exchange for new policy should a fault occur
- * 1 year guarantee giving FREE collection and delivery service should a fault occur
- * Exclusive gold card with personal membership number entitling you to special offers
- * All this for a nominal £10 per item over £100

PRICE PLEDGE

We know the majority of you prefer to buy from us but are sometimes tempted by smaller companies offering a £1 or so price difference. That is why we have now introduced our

"PRICE PLEDGE"

"WE WILL MATCH ANY PRICE OFFERED ELSEWHERE ON A SAME PRODUCT BASIS!"*

* Subject to stock

WHY CHOOSE DOWLING?

* ESTABLISHED OVER 4 YEARS

With a growing reputation for "putting the customer first". We intend to satisfy many more customers for years to come

* TECHNICAL SUPPORT/ON-SITE ENGINEERS

Employing over 20 specialist staff, we are equipped to deal with the majority of queries

* FULL TESTING PROCEDURE

All computer hardware is tested prior to despatch, proving Dowlings commitment to customer care

So choose Dowling and put our reputation to the test!

PRINTERS

All of our printers come with a free cable and have a full 1 year warranty.

| | |
|-------------------------------|---------|
| Star LC10 Mono (9-pin) | £167.00 |
| Star LC10 Colour (9-pin) | £230.00 |
| Star LC220 Mono (24-pin) | £275.00 |
| Star LC220 Colour (24-pin) | £299.00 |
| Panasonic KXP1124 (24-pin) | £249.00 |
| Panasonic KXP1124 (15.24-pin) | £399.00 |
| Hewlett Packard DesignJet 500 | £299.00 |
| Citizen J4D [24-pin] + s/feet | £225.00 |
| Citizen Swift 24 [24-pin] | £299.00 |
| Citizen BJ10E Portable BJ Jet | £339.00 |

PRINTER ACCESSORIES

| | |
|----------------------------|--------|
| HP Deskjet - F85 Module | £59.00 |
| HP Deskjet - Ink Cartridge | £17.95 |

SWIFT 24 Colour Kit

| | |
|---------------------|--------|
| Swift 24 Colour Kit | £34.95 |
|---------------------|--------|

RIBBONS

All of our ribbons are GENUINE manufacturer ribbons - NO copies!

| | |
|--------------------------------|---------|
| 1 x LC10 Black Ribbon | £3.50 |
| 5 x LC10 Black Ribbons | £18.50 |
| 5 x LC10 Colour Ribbon | £5.20 |
| 5 x LC10 Colour Ribbons | £24.95 |
| 1 x LC220 Black Ribbon | £3.50 |
| 5 x LC220 Black Ribbons | £22.00 |
| 1 x LC220 Mono Ribbon | £5.00 |
| 5 x LC220 Mono Ribbons | £25.00 |
| 1 x LC220 Colour Ribbon | £10.00 |
| 5 x LC220 Colour Ribbons | £50.00 |
| 1 x LC24-200 Mono Ribbon | £25.00 |
| 5 x LC24-200 Mono Ribbons | £125.00 |
| 1 x LC24-200 Mono Long Life | £7.50 |
| 5 x LC24-200 Mono Long Life | £37.50 |
| 5 x LC24-200 Mono Long Life | £187.50 |
| 5 x LC24-200 Colour Ribbons | £55.00 |
| Swift 24 Mono Ribbons (each) | £5.00 |
| Swift 24 Colour Ribbons (each) | £13.95 |
| 1 x Panasonic KXP1124 Ribbon | £8.95 |
| 5 x Panasonic KXP1124 Ribbons | £39.95 |

PC COMPATIBLES

All PC prices include VAT and delivery

| | | |
|-------------------------|---------------------------|----------|
| Amstrad ALT286 | (20MB HD, 1MB RAM, 16MHz) | £1595.00 |
| Amstrad ALT386 | (40MB HD, 2MB RAM, 16MHz) | £1995.00 |
| Amstrad PPC840 DD | (60MB HD, 2MB RAM, 20MHz) | £3799.00 |
| Amstrad PPC840 SD | (60MB HD, 2MB RAM, 20MHz) | £539.00 |
| Atari ABC226 VGA COLOUR | (60MB HD, 1MB RAM, 16MHz) | £1399.00 |
| Atari PC3 XT EGA COLOUR | (30MB HD, 1MB RAM, 16MHz) | £1749.00 |
| Atari PC3 XT EGA MONO | (30MB HD, 840K, 8MHz) | £649.00 |

All PC prices include VAT and delivery

All PC computers listed above except ALT 286/386 come with 12 months on site warranty free of charge

Ring for further details or prices on:

AMSTRAD ATARI OR COMMODORE

HP DESKJET 500

£499

AS USED TO PRINT THIS ADVERT

ATARI ST ACCESSORIES

| | |
|-----------------------------------|---------|
| SM24 Mono Monitor | £99.99 |
| Megafibre 30 Hard Disk | £449.95 |
| Megafibre 60 Hard Disk | £619.95 |
| Roctec 1 MB Extended Drive | £75.00 |
| Micro Giga 1 GB Hard | £22.95 |
| ST Monitor Switch Box | £14.95 |
| STE Stereo scart lead | £12.99 |
| STFM standard scart lead | £7.95 |
| STFM Micro Phillips lead | £2.99 |
| STFM MIDI Extension lead | £10.99 |
| Atari CX40 Joy stick | £4.95 |
| Joy stick/Mouse extension lead | £4.75 |
| Replacement Mouse lead | £3.75 |
| Standard Parallel Lead | £5.95 |
| Memory Card Reader | £35.00 |
| 2 MB Leads | £9.95 |
| 14 Pin DIn Plug (ST disk drive) | £2.25 |
| 13 Pin DIn Socket (ST disk drive) | £19.95 |
| 13 Pin DIn Plug (ST monitor) | £19.95 |

ATARI LYNX THE SPECIALISTS!

Lynx Games Machine
(with free California Games) £119.00

| | |
|-------------------|--------|
| Blue Lightning | £22.50 |
| Chips Challenge | £22.50 |
| Electrocop | £22.50 |
| Gates of Zendocon | £22.50 |
| Xenophobe | £27.50 |
| Road Blasters | £27.50 |
| Ms Pacman | £27.50 |
| Gauntlet 3 | £25.00 |
| Silence World | £25.00 |
| Klax | £27.50 |

GAMES COMING SOON
(expected price £27.50 each)

Ring for release dates

| | |
|---------------|------------------|
| 3D Berzerk | Rampage |
| 2D Degrees | Robot Squash |
| A.R.B. | Fryar |
| Basketball | Scrayonoid |
| Blockout | Shanghai |
| Cyberball | Star Runner |
| Diving | Super Soccer |
| Enduro | Superbowling |
| Grinrunner | T-1000 |
| Lynx Casino | Vindicators |
| Mercenary | World Cup Soccer |
| Ninja Gaiden | War Birds |
| Padland | Xybots |
| Pixel Shuttle | |

MIDI SOFTWARE

| | |
|------------------------------|--------|
| Sequencer One (ST) | £89.95 |
| DIT Tiger Cub (ST) | £59.95 |
| C-Lab Notator V3.0 | RING |
| C-Lab Creator V3.0 | RING |
| C-Lab V3.0 Upgrades | RING |
| STF1 MKII Music Cabinet V2.0 | RING |
| Steinberg Cubist V1.0 | RING |
| Steinberg Editors | RING |
| D10 10/10 | RING |
| Kawai KI | RING |
| Roland M50 | RING |
| Roland MT 32 | RING |
| Yamaha DX/TX | RING |

MICE

| | |
|------------------------------|--------|
| Contivier - ST compatible | £18.95 |
| Contivier - Amiga compatible | £19.95 |
| Contivier - PC compatible | £23.50 |
| Contivier Trackball ST | £29.99 |
| Nahska - ST/Amiga/Amstrad PC | £34.99 |

DUST COVERS

| | |
|----------------------------------|-------|
| Atari ST/STE computer | £6.99 |
| Atari SW124 Monochrome monitor | £7.99 |
| Atari ST/STE computer | £6.99 |
| Philips 8833 colour monitor | £7.99 |
| Star LD10 colour or mono printer | £6.99 |

The staff at
BEST PRICES
would like to
wish all of our
customers a
very Merry
Christmas and a
prosperous New
Year.

Thanks for all of
your support in
1990 and we
look forward to
hearing from
you all in 1991.

And a special
thank you to all
of our
customers who
wrote or called
us to
compliment us
on our fast and
efficient
service.

Remember
BEST PRICES
are

No 1

for price,
for service,
for facts,
and for putting
the customer
first.

PHILIPS 8833 MKII STEREO COLOUR MONITOR

12 months on site warranty FREE /
with this monitor

£ 249.00

including vat and delivery

BLANK DISKS

All of our blank disks are guaranteed and supplied with labels. Our 3.5" Unbranded disks are either KAO or Sony. All Sony Branded disks are boxed and supplied with labels. All disk prices include vat and delivery. Ring for prices on larger quantities.

QUANTITY

10 20 30 50 100

UNBRANDED

3.5" DS/DD 5.99 10.99 15.99 25.99 49.00

SONY BRANDED

3.5" 2D 9.50 18.50 26.50 42.00 80.00

UNBRANDED

3.5" HD 14.95 27.95 39.95 59.99 115.00

SONY BRANDED

3.5" HDD 27.50 53.00 77.00 120.00 235.00

UNBRANDED

5.25" 360K 3.25 6.25 9.25 14.95 27.50

SONY BRANDED

5.25" 2D 7.95 15.50 22.50 36.99 69.99

SONY BRANDED

5.25" HDD 12.99 24.99 34.99 56.99 99.99

AMIGA**AMIGA A500 SCREEN GEMS PACK**

A500 cpu, mouse, tv modulator, manuals, Workbench, DPaint 2

and Days of Thunder, Back/Future II, Nightbreed and ShadowBeast II

£359.00

AMIGA A500 BASE PACK

A500 computer, mouse, 1MB Ram Expansion, manuals, Workbench, etc

supplied 'bare' with no games software

£339.00

AMIGA A500 CLASS 90's FIRST STEPS

A500 computer, mouse, 1MB Ram Expansion, manuals, Workbench, etc

comes with DPaint II, DPrint II, Pro Write 2.5, InfoFile, Music Mouse, Lets Spell, Logo, BBC Emulator, 10 Blank disks and mouse mat

£539.00

AMIGA A1500 PACK

A1500 1MB ram computer with 2 x 3.5" drives, mouse

1084S Stereo Colour Monitor, and software : Platinum Works, DPaint 3

Populous, Simon City, Battle Chess, Their Finest Hour and 2 books

£1099.00

Astra Pack - 10 games

See opposite page

Photon Paint version 1

Photon Paint version 2

Deluxe Paint version 3

Screens Gem software

512K Ram Upgrade with clock

A500 2Mb Hard Disk drive

A590 1Mb Ram Upgrade

Roctec external disk drive

Vidi Amiga video digitiser

Amiga Stereo Scart Lead

Mouse Mat

£39.95

£369.95

£49.00

£73.00

£99.99

£39.99

£39.99

£39.99

All Amiga prices include VAT and delivery

ATARI STE + STFM

ALL ATARI STE PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS CARRY A FULL 12 MONTH WARRANTY. ALL MACHINES ARE CHECKED PRIOR TO DESPATCH. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES. WILL YOU EVER WANT TO EXPAND YOUR STE'S RAM? ALL OF OUR ATARI STE COMPUTERS HAVE THE "PLUG-IN" RAM SOCKETS - OUR PRESENT STOCKS DO NOT REQUIRE A SOLDERED IN RAM UPGRADE. UNLIKE THE MACHINES OFFERED BY OTHER MAIL ORDER COMPANIES, OUR PRESENT STOCKS ALSO HAVE THE NEW DMA CHIP SET FITTED ALLOWING TROUBLE FREE OPERATION WITH ATARI HARD DISK DRIVES.

512k 1mb 2mb 4mb

520STE STANDARD PACK. consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software.

520STE TURBO. consists of Standard Pack and STOS, Basic, Hyper Paint II, Music Maker II, game Indiana Jones, Impossible Mission II, H.K.M., Super Cycle, Outrun, Dragons Breath, Anarchy & Blood Money! and a joystick.

520STE BUSINESS. consists of Standard Pack and also comes with K-Word 2 word processor, K-Data database, K-Spread spreadsheet and Metacomo Basic programming software.

520STE TENSTAR. consists of Standard Pack and Asterix, Chess Player 2150, Driving Force, Live • Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeak, Trivial Pursuit II and a joystick.

520STE DISCOVERY. consists of the Standard Pack and STOS, First Basic, NeoChrome and 4 games (Carrier Command, Space Harrier, Outrun, Bomb Jack!) and a joystick.

520STFM STANDARD PACK. consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software.

520STFM TENSTAR. consists of Standard Pack and Asterix, Chess Player 2150, Driving Force, Live • Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeak, Trivial Pursuit II and a joystick.

520STFM DISCOVERY. consists of the Standard Pack and STOS, First Basic, NeoChrome and 4 games (Carrier Command, Space Harrier, Outrun, Bomb Jack!) and a joystick.

520STFM BUSINESS. consists of Standard Pack and also comes with K-Word 2 word processor, K-Data database, K-Spread spreadsheet and Metacomo Basic programming software.

SPECIAL OFFER!!

We are offering:

a Mouse Mat, 10 Blank 3.5 disks and labels,
Atari ST dust cover, Atari CX40 joystick
and a joystick mouse extension cable,
for only £17.50 when purchased with any Atari
STFM or STE. Ask for the STARTER PACK.

520 STFM + STE SOFTWARE PACKS

TENSTAR PACK

£29.95

DISCOVERY PACK

£19.95

TURBO PACK (STE only)

£24.99

BUSINESS PACK

£59.99

HYPER PACK (Call for details)

£14.95

All software pack contents are detailed above with the computers. The software pack does not come with a joystick. All pack prices are full inclusive of vat and delivery. Any pack can be purchased at any time. No other purchase required!

AMIGA GAMES LESS THAN £3.00 EACH?

Datasoft, Dungeon Quest, E Motion, Grand Monster Slam, Kid Gloves, Powerplay, RVF, Honda, Shuffle Puck, Cafe, Soccer and Tower of Babel. All of the above games are available in the Astra Software pack for only £29.95.

BEST PRICES MAIL ORDER

(DEPT NCE), UNIT A, GRAFTON PLACE,
WORTHING, WEST SUSSEX, BN11 1QX

(0903) 700714
TELESALES 10am till 12 midnight

All prices include VAT and UK delivery unless otherwise stated. All prices / specifications / special offers are subject to change without notice. Goods usually despatched same day as cleared payment is received.

Please make cheques/P.O's out to BEST PRICES Mail order only. No callers. Thank You.

ADD £3.00 BBC VAT FOR NEXT WORKING DAY OR DELIVERY, ADD £6.00 BBC VAT FOR 2ND CLASS UK DELIVERY

REMEMBER, WE ONLY SELL THE
ATARI STE WITH PLUG IN RAM
SOCKETS. OTHER COMPANIES MAY
OFFER MACHINES WITH
SOLDERED IN RAM BOARDS. SO
RING US FIRST, WE CAN ASSIST
YOU IN THE PURCHASE OF YOUR
NEW ATARI STE OR STEM.

SIMPLY THE BEST!!

At Best Prices, we pride ourselves on our knowledge and our service. We run a totally computerised operation which provides us with an automated order and despatch system. We can access any information regarding your order within seconds. Our staff have all been fully trained in various fields of computing. Most of our staff have been dealing with computers for over 7 years!
Ring us now ... and buy with confidence.

STE RAM KITS

DIY 1 KIT - 520STE to 1MB

(2 x 256K cards) SIMMS £34.99

DIY 2 KIT - 520/1040 to 2MB

(2 x 1MB cards) SIMMS £109.00

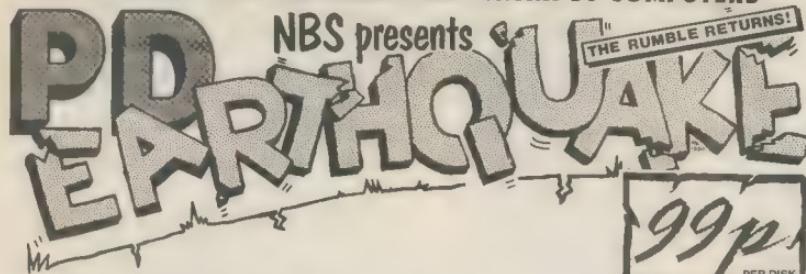
DIY 4 KIT - 520/1040 to 4MB

(4 x 1MB cards) SIMMS £205.00

ALL RAM prices include VAT and delivery and come with instructions.
PLEASE CHECK YOUR STE CONFIGURATION BEFORE ORDERING. STE MACHINES SUPPLIED BY OTHER COMPANIES REQUIRE SOLDERING!

TELESALES OPEN 1000am TILL 1200 MIDNIGHT (MON TO SAT)

AND NOW FOR THE AMIGA AND ATARI ST COMPUTERS



The earthquake brings down the price of Atari ST & Amiga software. At last both the popular 16 Bit computers have a reliable PD distributor at a realistic price

NEW AMIGA OWNERS START HERE

Public-domain software comes from 9 main sources. The first is where someone has written a useful little utility, which is of use to the writer and hence almost certainly of use to other Amiga users, by to code graphics, or just give pleasure to thousands of other Amiga enthusiasts. In the second, there are many utilities, games and demos which, at a nominal cost can bring many hours of pleasure, and there is now a veritable army of PD collectors. All true PD is free to copy and redistribute, so you can pass it on to your friends, or sell it if you like. If you are a collector, you will find that most helpful services available today, but please remember my word for it, try us! If you have just acquired your Amiga, we recommend the following disks, which will either amaze, amuse, or be very useful. NBS disks are divided into the following groups:

- D 146 RS MEGADEMO. One of the best ever demo disks (2 DISKS)
- D 153 PUGGS IN SPACE. A brilliant cartoon demo, yet to be bettered.
- D 159 TURBO DEMO - Great space demo, with some really cool art!
- D 186 COMA DEMO. Flappy acid demo, together with many great demos *
- D 190 RSI CERBIR DEMO. Terrific demo, with the best ever music *
- D 033 TOMSOFT TRIP TO MARS. Vector graphics with a theme *
- D 034 SORCERER'S CURSE. Another great demo, with some great art!
- D 091 FILET THE FISH Similar to PUGGS, but not as good, still brilliant.
- D 315 UNREAL DEMO A same demo to show off some great graphics.
- X 110 FRAXION HORROR Great cartoon graphic demo of nasty stuff.
- M 005 MAHONY & RAKUTUS Brilliant music disk
- B 030 DIGITAL CONCERT 9. Over 12 mins of mixed house music.

* Compilation disks which contain other demos requiring 1 Meg of memory. This is only a small selection of our library. All the above disks will work on a basic A500. Many more disks, including disks for expanded Amigas and the complete F/TBeg range can be found in our catalogue and magazine disk.

ATARI ST OWNERS START HERE

ST DEMOS (All disks are SINGLE SIDED & 1/2 MEG unless otherwise stated)

- \$0 005 LITES A BITCH - Another great demo by the lost boyz
- \$0 006 VENOM - Great space demo, with some really cool art!
- \$0 003 PREDATOR - Brilliant animation (solo and the band)
- \$0 004 SO WATT - A collection of quality demos from the Carebees (DS)
- \$0 003 WHATEVER - Another good set of demos from the Carebees (DS)
- \$0 003 SO METAL SAYL - Great demo from the well known organ scene (DS)
- \$0 007 SWEDISH NEWBIE - Three demos from different programmers (DS)
- \$0 008 CLUTTER DEMO - Brilliant demo with many parts (DS)
- \$0 009 TURBO DEMO - Another great demo with lots of art (DS)
- \$0 010 SHOOTMAN DEMO - Collection of 6 demos from the fin (DS)
- \$0 011 RODEOCOP V DEMO - Collection of 6x samples from the fin (DS)
- \$0 050 ST TRACKER DEMO 1 - 4 channel sampled music! Who needs Antige? (DS)
- \$0 001 ST BATTLESHIP DEMO - Another great demo, with lots of art (DS)
- \$0 001 ST BATTALION - Brilliant! Complete Action song on 1 disk (DS)
- \$0 002 TERMINAL MUTANT TURTLES - Turtles make it to the ST (DS, 1 MEG)
- \$0 003 SHOOTMAN DEMO - Another great demo with lots of art (DS, 1 MEG)
- \$0 004 THE BOMB - Great animation of police chase (DS, 1 MEG)
- \$0 005 S.A. - Another interesting part of the Psycho shower scene (DS)
- \$0 006 STAS LAS ANARCHY - Distorted by the Law (DS, 1 MEG)
- \$0 007 CALIFORNIA RISING - Decoding the Hype (DS, 1 MEG)
- \$0 008 ST BATTALION - Brilliant! Complete Action song on 1 disk (DS)
- \$0 009 ST BATTALION - Full version of this excellent animation package (DS)
- \$0 012 ST SLIDESHOW - Full of hand-drawn artwork from the comic.

STE ONLY DEMOS (All STE disks are DOUBLE SIDED, 1/2 MEG unless stated)

- ED 001 THE STE DEMO - One of the first demos to use Stereo sound
- ED 002 BOMB ST - Featuring a big bounding ball (1MEG)
- ED 003 STAS LAS - Another great demo with lots of art (1 MEG)
- ED 004 ST SCORPILLER - Endless waves of snakes (1 MEG)
- ED 005 JUNGLE DEMO - Great graphics and sound effects!
- ED 006 PSYCHEATER HOUSE - No, it's not a spelling error! It's ACID!
- ED 007 DEBIRUS - Excellent! 6 different demos to play with!

GAMES (All supplied on SINGLE SIDED disks unless otherwise stated)

- \$0 001 ST STAR TREK - The next generation - a brilliant strategy game (DS) (1 MEG)
- \$0 005 OLE ALIENS BLOX - A good scrolling shoot-em-up

NEED MORE DETAILS? NBS PD UPDATE 5 IS NOW AVAILABLE! To obtain your FREE copy, please send a stamped self-addressed envelope (minimum size 9" x 6") to: NBS (Atari Catalogue) 132, Gunville Road, Newport, Isle of Wight, PO30 5LH

WE ALSO SUPPLY THE FOLLOWING

| | |
|---|-----------------------------|
| 100 cap Lockable Storage Boxes | £7.95 |
| 10 cap Utility Cases | £1.25 |
| Star LC10 Printer Ribbons | Black £3.30 .. Colour £5.75 |
| Contrive 4 Disc Centres mouse | £24.95 |
| Apple 4.5" Expansion card | £10.50 |
| Mouse mats (soft, boxed) | £9.65 |
| Disk Labels (wrap round) | 30 for £1.00 900 for £5.00 |
| Exclusive n/a Cat Picture labels, 55 for £1.00 .. 100 for £1.00 | |
| Sony unbranded silver disk (Japan) 65p each, 100 for £5.00 | |
| Unbranded blank disks (various manufacture) 49p each, | |
| 100 for £4.00 | |

All prices include VAT. Please remember 60p postage per order.

ORDERING DETAILS

PLEASE MAKE CHEQUE(S) PAYABLE TO NBS
AND SEND TO:

(DEPT NCE) NBS, 132 GUNVILLE ROAD,
(ATARI ST/ AMIGA STATE WHICH)
NEWPORT, ISLE OF WIGHT PO30 5LH.
TELEPHONE (0983) 529594
FAX (0983) 821599

VISA

If you have a Credit card you can phone or fax your order to us. Please remember to include 60p towards postage and packing to total order. All orders up to 3kg are sent via Royal Mail. For heavier items, please add postage to total order.
30p for recorded delivery.

All used postage stamps donated to
"Guide Dogs for the Blind".

WE LOVE INTERNATIONAL ORDERS

We already have many satisfied customers from such places as: Australia, New Zealand, America, Middle East, Hong Kong, Japan, Africa, even the Falkland Islands, and, of course, all

All orders sent by Air Mail. For European orders, please add 40p per disk. World Orders add 50p per disk. International payments by Credit Card, British Postal Orders, Eurocheque, any cheque with a UK cashing address, or even cash (registered letter).

WHOLE WIRED WORLD

Your regular trip around the world with Steve Gold.

HYPERCARD FOR IIGS

After months of waiting, Apple IIGS users have been rewarded with their first glimpse of *HyperCard* for their machine. The package – which ships after Christmas for \$99 in the US – was unveiled at the Applefest conference held in Long Beach, California, at the end of November.

Like *HyperCard* for the Apple Mac, *HyperCard* IIGS operates in a similar fashion to a set of index cards. Users store information in documents called stacks, which are made up of individual units called cards. Cards can contain text, graphics, scanned images, and even sound. Buttons on the cards are then used to link cards and stacks.

According to Apple, *HyperCard* IIGS is based on the Macintosh *HyperCard* version 1.2.5, with enhancements to take advantage of the IIGS' colour capabilities. The package requires an Apple IIGS with at least 1.5Mb of RAM (2Mb is recommended), system software 504 or higher, a single 800K disk drive and a hard disk drive or connection to a network.

Although only small quantities of the IIGS were sold in the UK prior to the introduction on the Mac in the mid-80s, the machine has sold steadily since, especially to Apple II users wanting to trade up using add-in cards. *HyperCard* is bound to appeal to these users.

CHEAP WORDFLAIR UPGRADE

Goldleaf Publishing has launched a major new version of its *Wordflair* word processing software for the Atari ST. Called *Wordflair II*, the \$150 package is receiving excellent reviews by the Atari on-line magazine trade, pending shipment in early January.

From now until February 15 the Californian software house is allowing

users of several competing word processing packages – including GST's *1st Word Plus*, Neocraft's *Wordup* and Timeworks' *Wordwriter ST* – the chance to upgrade to *Wordflair II* for half price.

In order to qualify for the offer price, ST users must send their original disk(s) and a \$75 cheque to: Goldleaf Publishing, 700 Larkspur Landing Circle, Larkspur, California 94939, United States. Further details on 0101-415-461-4552.

MAXWELL'S EXPOSE

Maxwell Computer Products Unlimited (CPU) has unveiled *Expose*, a desk accessory for the Atari ST for desktop publishing users. The \$39.95 package allows graphic files to be viewed from a GEM window. Other features include the creation, saving and loading of notepad files to and from external software running in the foreground.

According to the Colorado-based company, *Expose* occupies 150K of RAM, and so requires at least 1Mb of RAM to run other programs effectively.

Two versions of *Expose* are supplied on disk by Maxwell CPU – Mono for hi-res monochrome monitors; and Colour for medium-res colour monitors.

Contact: Maxwell CPU, 2124 West Centennial Drive, Louisville, Colorado 80027. Tel: 0101-303-666-7754.

VIDEO TOASTER

Newtek's Video Toaster multimedia system for the Amiga is gaining a lot of attention in the Amiga magazines, but the cost of adding a time-based corrector to the Toaster plus Amiga ensemble is putting a number of potential buyers off the system.

Which is where Vision Quest comes into the frame. The Arizona-

based company has come up with a \$1,200 dual time-based corrector for the Video Toaster. The unit allows cameras lacking sync facilities and semi-professional VCRs to be linked to the Amiga without the usual frame jitter problems. Future software upgrades will include software correction of colour and automatic resolution enhancement of inputs and outputs, the company says.

Interested? Contact Don Kennedy of the company at Vision Quest Systems, 2925 Sunny Lane, Fayetteville, Arizona 87203, United States. Tel: 0101-501-253-5264.

MODEM/FAX UNITS FOR ST

PC fax card units that double up as ordinary modems for PCs are nothing new, but how about a modem for the Atari ST that does all this? Joppa Software Development is selling the Joppa SF01 and SF02, two packages that do just that – emulate a fax machine, while featuring a standard modem as well.

The SF01 retails for \$169.95 and supports all modem speeds between 300 and 2,400 bps, as well as 2,400 and 4,800 bps fax tones. The SF02 costs \$229.95 and supports all the facilities of the SF01 as well as 9,600 bps fax tones.

It's worth noting that these units do not support 300bps and 1,200/75 bps UK (CCITT) tones, and that they [them] are unapproved for use on the BT network. Still, at the price, who cares?

Contact: Joppa Software Development, PO Box 226, Joppa, Maryland 21065, United States.

MAC PASSWORD SECURITY

Authenticator, from Eclectic Associates, is a password security system for the Apple Mac. It prompts for a user name and password and denies further access to the user until a valid combination has been entered.

According to Eclectic, *Authenticator* was designed for Harvard's Graduate School of Design and is licensed by Eclectic Associates from Harvard University. The software is designed to support both single and multiple users on a single Mac or a network and will handle authorisation failures by shutting down the Macintosh or by remaining on but denying access to the user.

Contact David Kovar at Eclectic Associates on 0101-617-643-3373.

ATARI GERMANY SLASHES TT PRICES

Atari's West German operation – a big seller when it comes to STs – has slashed the prices of its 32MHz TT machines.

According to Ron Kovacs' Z-Net newsletter, the cuts have been made in response to seasonal shortages in the Mega ST2 and ST4 series in West Germany. These prices include a 40Mb

GRIP THOSE STICKS

One of the problems with joysticks and their table clamps is that they always come adrift, as the power of the human hand is so great. But help is at hand courtesy of Duggan Design of Warwick, Rhode Island, in the US. The company has released an interesting device called the Stick Gripper.

Costing \$19.95, you place the gripper under your knees while you sit at the table with the joystick clamped to the top plate. Then, no matter how hard you pull on the joystick, your knees give the plate an added element of stability.

It may sound odd, but it does allow you to hold the joystick with both hands and – according to several on-line reviews I've read – is very easy to use. Contact: Duggan Design, 300 Quaker Lane, Suite 7, Warwick, RI 02886, United States. Tel: 0101-401-823-8073 or fax: 0101-401-826-0140.

UPGRADE FOR SUPERCHARGER

Beta Systems of Frankfurt in West Germany has announced a 286 upgrade to the Supercharger MS-DOS emulation system for the Atari ST. Pricing on the SC Plus/286 expansion kit has yet to be announced, but is expected to be competitive.

The new SC Plus 286 expansion turns the Supercharger into a PC-AT-compatible, courtesy of a 12MHz 80286 microprocessor and support chips. A key feature of the expansion system is it has two AT-style expansion slots, allowing real PC expansion cards to be used on the Atari ST! An optional 386SX-based upgrade is also in the pipeline.

Shipments of the 286 system, as well as the 386SX card, is expected some time early next year.

The company can be contacted at Beta Systems, Staufenstrasse 42, 6000 Frankfurt, West Germany.

STAR WARS ON NINTENDO

Nintendo's Entertainment System (NES) has got a boost (not that it needed one) with the news that Lucas Arts Entertainment and JVC are pooling resources to develop and publish games cartridges for the NES.

First fruits of the partnership will be a cartridge based on the *Star Wars* trilogy which is due to ship early next year. Lucasfilm will handle the design and marketing, while JVC will be responsible for the sales and distribution. ■

hard disk as part of the package, but not the monitor, reports Z-Net:

| | | |
|--------------------|---------|----------|
| Atari TT with 8 Mb | DM5,298 | (£1,900) |
| Atari TT with 6 Mb | DM4,798 | (£1,700) |
| Atari TT with 4 Mb | DM4,298 | (£1,550) |
| Atari TT Colour | DM998 | (£350) |
| monitor | | |
| Atari TT 19 inch | DM2,198 | (£800) |
| monitor | | |

Evesham Micros

ALL
PRICES
INCLUDE
VAT AND
DELIVERY

Buy with confidence from one of the longest established companies in their field, with a reputation for good service and prices. We have invested heavily in a computer system to enable our sales staff to provide up-to-the-minute stock information, coupled with highly efficient order processing. Our fully equipped Workshop ensures us to carry out all necessary repair work on premises. We assure you that if you are disappointed with your purchase Evesham Micros.



AMIGA SPECIAL DEALS

Our A500 Packages also
include the following

| Kernie Kid II | Jaws | Microproc. & Spreadsheet | Super Huey |
|---|-------------|---------------------------|------------|
| Battle Squadron | High Street | Microprocessor Compatible | Night Walk |
| | | Better Dead than Alien | |
| Amiga 500 512K Game pack including "Back to the Future 2", "Night Breed", "The Beast 2", "Dexx Paint 2", "Days of Thunder" and TV modulator | | | |
| Amiga 500 1Mb Screen Gems pack upgraded to a full 1Mb using our 512K RAM/Clock | | | £379.00 |
| Amiga 500 Screen Gems pack with Drive includes our high quality 3½" External Drive | | | £409.00 |
| Amiga 500 1Mb Screen Gems pack with Drive includes our 512K RAM/Clock upgrade plus 3½" Ext. Drive | | | £430.00 |
| Amiga 500 1Mb Class of the 90's Pack including A501 512K RAM Upgrade, TV Modulator, 8 software titles, 10 blank disks, Video Tapes and more, all for only | | | £465.00 |
| | | | £549.00 |

| | | | |
|--|--------|--|---------|
| Vidi-Amiga video digilaser package | £95.00 | Philips CM48283 Mk.II colour monitor Inc.cable | £249.00 |
| Vidi-Amiga colour accessory for Vidi-Amiga | £16.00 | and 12 month On-Site Maintenance | £249.00 |
| MINIGEN Graphic Adapter | £29.95 | Kickerati 1.3 Upgrade pack | £29.95 |
| TrueMouse superb quality replacement mouse | £17.95 | Music-X Incredibly powerful music package | £110.00 |
| Nakaha Hi-Ras replacement Mouse package | £28.95 | Home Accounts (Digital) | £18.95 |
| Kraft Trackball (plugs into mouse / joystick port) | £44.95 | Amiga 500 Dust cover | £4.95 |

A500 SOLDERLESS RAM UPGRADES



512K MEMORY UPGRADE ONLY £34.95

including VAT &
delivery

512K RAM/CLOCK EXPANSION FEATURES :

- ★ Direct replacement for the A501 expansion
- ★ Convenient On / Off Memory Switch
- ★ Auto-recharging battery backed Real-time Clock
- ★ Compact unit size : Ultra-neat design
- ★ Only 4 low power consumption FASTRAMs

512K RAM expansion without clock only £29.95

A500 1.5MB RAM BOARD

- ★ Fully populated board increases total RAM to 2MB !
 - ★ Plugs into the trapdoor expansion (as with 512K unit)
 - ★ Auto-recharging Battery Backed Real-Time Clock
 - ★ Socketed FASTRAM ICs for accommodation up to 1.5MB
- Unpopulated RAM Expansion Board with Clock £39.95
 RAM Board with Clock, with 512K FASTRAM installed £59.95
 RAM Board with Clock, with 1Mb FASTRAM Installed £74.95
 RAM Board with Clock, with full 1.5Mb FASTRAM Installed £99.95
 NB Requires Kickstart 1.3 to operate - Kickstart 1.3 Upgrade available from us for £29.95
 Please Note: The Upgrade Requires Internal Connection to the Amiga GARY chip.

SPECIAL NEW AMIGA PRODUCTS

MIDI INTERFACE Only £ 19.95

'TESSA' speaker system Only £ 34.95

STEREO SOUND SAMPLER Only £ 29.95

GET CONNECTED !

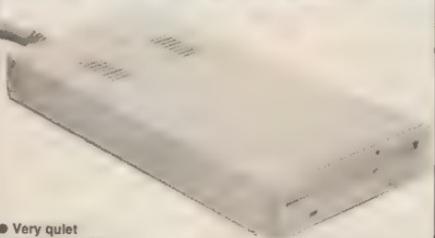
Our new fully compatible, high quality MIDI Interface connects directly with the Amiga serial port and provides IN, OUT and THRU ports for general flexibility. Features LED indicators on each port to assist ease of use and also for diagnostic purposes. Superb compact design.

HEAR THAT STEREO !
 Your Amiga produces excellent quality hi-fi stereo sound. Enjoy high quality stereo sound reproduction to the full with our great new twin speaker system. TESSA (with ergonomic speaker, drivers, amplifier). Incorporates a specially designed 10 watt per channel amplifier, including volume control, to obtain the best sound.

S-S-SAMPLE THIS !

Offering compatibility with almost any Amiga audio digital software, our Sound Sampler features a single channel VLSI sound processor. The mono A/D converter gives a sampling rate of up to 16 50kHz, with a fast slew rate. Two phone sockets are provided for stereo line input, plus an option for mono line output. Includes a 10 watt built-in control and... Complete with public domain disk containing sound sampling applications / utilities.

Amiga & ST 3½" Drives



- Very quiet
- Slimline design
- Cooling Vents
- Sleek, high quality metal casing
- Sealed Teac / Citizen mechanism
- On / Off switch on rear of drive
- Throughport connector (Amiga)
- External plug-in PSU (Atari ST)
- Full 1Mb unformatted capacity
- Long reach connection cable

5½" External 40/80 Track Drive also available, only £99.00

PHILIPS 15" FST TV/Monitor (MODEL 2530)

With its dedicated monitor input, this model combines the advantages of a high quality medium resolution monitor with the convenience of remote control, reflex TV - at an excellent low price !

£269.00

Includes VAT, delivery
and computer
connection lead



ATARI ST VERSION :

£64.95

AMIGA VERSION :

£54.95

NEW

SOLDERLESS RAM UPGRADES FOR ST'S



Upgrade the memory in your ST quickly and easily with our new, fully software compatible RAM upgrade board. Designed for pre-STE machines, the unit accepts SIMMS slot-in memory modules, making RAM upgrades a snap! No soldering, knowledge needed! Available with or without RAM modules. Allows upgrade in stages of 1Mb, 2/2.5Mb and 4Mb, as and when necessary. Straightforward installation - full, comprehensive instructions provided.

- ✓ Fits Any STF, STFM or MEGA series machine in Minutes!
- ✓ Uses SIMMS RAM Modules for Effortless Upgradeability
- ✓ Probably the Neatest ST RAM Upgrade available!

RAM Upgrade Kit with board unpopulated £5.95

**RAM Upgrade Kit With 512k RAM Installed
Upgrades a 520 ST to 1mb of 1Mb RAM £9.95**

**RAM Upgrade Kit With 2Mb RAM Installed
Upgrades a 520/1040 Mega 1 to 2.5Mb £17.95**

**RAM Upgrade Kit With 4Mb RAM Installed
Upgrades a 520/1040 Mega ST1 to 4Mb £24.95**

N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a little soldering.

NEW! PLUG-IN SOLDERLESS 512K RAM UPGRADE FOR ANY ATARI 520ST



Now there is a simpler, faster and more effective method of upgrading your humble 520 ST to 1Mb RAM! Our new plug-in 512K memory upgrade unit offers excellent value for money, requiring no soldering or special technical know-how. (Not suitable for STE machines.)

ONLY £69.95 including VAT and delivery



All our ST prices include VAT and delivery PLUS: mouse
extra £10.00 disk drive or software including 160 Word Processor,
Utility, Recompute paint program, game and demos, etc.

520 STFM DISCOVERY PACK

Good Quality 2000 value package based around the 520STFM computer including 512k RAM, 1Mb Drive and built-in TV monitor. Also supplied is:

STOS, Game Creator
Carrier Command
Space Harrier
Pitfall!
Pitfall II
plus 'Discovering your Atari ST' Book

£269.99

ALSO AVAILABLE WITH
1Mb RAM FITTED :
£339.00

1040 STE PROFESSIONAL ('EXTRA') PACKAGE

Excellent starter package, including the 1040STE machine with 1Mb RAM, 1Mb Drive, plus the following extras:

Kuma Wordprocessor
STAC Adventure Creator
Hyper Paint (STE version)
Printhead
Kuma Business Graphics
Music Maker 2 (STE version)

£449.99

WITH 2Mb RAM FITTED:
£548.00
WITH 4Mb RAM FITTED:
£664.00

520 STE TURBO PACK

Features the latest 520STE with 1Mb drive, joystick, mouse, user guide, 3 disks of P.D. Software, plus a quality selection of entertainment & creativity software, including:

Indiana Jones & the Last Crusade
Blood Money
Impossible Mission II
Human Killing Machine
Dagger
Hyper Paint 2 (STE version)

£359.99

WITH 1Mb RAM FITTED:
£379.00
WITH 2Mb RAM FITTED:
£458.00
WITH 4Mb RAM FITTED:
£574.00

| | |
|---|---------|
| 520/STE RAM upgrade to 1Mb, includes 2x 256SIMMS modules | £40.00 |
| 520/1040STE RAM upgrade to 2Mb, includes 2x 1Mb SIMMS modules | £119.00 |
| 520/1040STE RAM upgrade to 4Mb, includes 4x 1Mb SIMMS modules | £235.00 |
| 520ST/STFM 1Mb Drive Upgrade Kit with full fitting instructions | £54.95 |
| 520ST/STFM 1Mb Memory Upgrade Kit, requires soldering | £30.00 |
| Siemens colour monitor | £279.00 |
| EC1224 colour monitor | £279.00 |
| Philips CM8983 Mk.II 14" colour monitor (stereo sound), price includes connection cable and 12 months on-site maintenance | £249.00 |
| LYNX hand-held games console, inc. power supply, New Low Price £119.95 | |

PRINTERS

All prices include VAT, delivery and cable



Evesham Micros SPECIAL OFFER
ALL STAR PRINTERS INCLUDE 12 MONTHS ON-SITE MAINTENANCE!

Star LC10 best-selling 1.44MByte printer, 1 NLO fonts

Star LC200 NEW! replaces LC10 Colour model, with new features: 160/45cps with bottom feed facility and push/pull tractors

Star LC15 wide carriage version of LC10

Star LC24-10 feature-packed multifont 24 pin printer, New Low Price !

Star LC24-15 wide carriage version of LC24-10

Star LC24-200 NEW! updated version of LC24-10 with bottom feed facility, improved paper handling and print speeds increase to 200/7cps

Star LC24-200 NEW! 7-colour version of LC24-200, excellent value

Star FR-10 Professional 9 pins/300/76 cps, 31K buffer, 16 NLO fonts, EE-PROM configuration memory and 12 months on-site maintenance

Star FR-10 Professional 9 pins/300/76 cps

Star XB24-10 Professional 24 pins/276 buffer, 4 SLO & 25 LQ fonts with EE-PROM configuration memory and 12 months on-site maintenance

Hewlett Packard Designjet 500 inkjet 300dpi printer, serial & parallel ports

Panasonic KX-P1120 180 cps with over 3400压抑ities, 11" carriage

Panasonic KX-P1124 NEW successor to KX-P1124, 11" multifont 24pin printer

Epson LX400 popular 9 pins/180/25 cps

Epson LX500 good 24pin printer 150/50 cps

Epson QX50 good 24pin printer 150/50 cps

Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality filecards, with ultra-competitive speed ratings. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC 1512/1540/2086 users we supply filecards tested and formatted, with our simple software installation procedure. Probably the best packages available!

21MB...£225.00 32MB...£239.00 41MB...£279.00

ATARI
AMSTRAD

Buying a PC? Shopping
around for the best deal?
Evesham Micros is one of the UK's
leading suppliers of Olivetti, Amstrad, Sharp
and Atari PC's, offering highly competitive deals
at the lowest prices. Contact us now for a quote!

Evesham Micros

RETAIL SHOWROOMS

Unit 9 St Richards Road
Evesham
Worcestershire WR10 6JX
0386-765180
fax: 0386-765354
Open Mon-Sat: 9.00 - 5.30

5 Gilson Ridge
Cotteridge, B74 1HA
0223-322883
fax: 0223-322883
Open Mon-Sat: 9.00 - 5.30
Specialist Education Centre

ALL PRICES INCLUDE VAT AND DELIVERY
Same day despatch whenever possible. Express Courier delivery £5.00 extra

MAIL ORDER DEPARTMENT

Unit 9 St Richards Rd, Evesham, Worcs WR11 6XJ

Call us now on 0386-765500

8 lines, Open Mon-Sat: 9.00 - 5.30. Fax: 0386-765354
Technical support open Mon-Fri, 9.30 - 5.30
0386-402033

Government, Education & PLC's order selfconf.
All products covered by a 12 month guarantee.
All goods subject to availability, E & O.E.

SHARP
olivetti

Loops seem quite straightforward, if you will excuse the pun. Unfortunately many languages implement them in a way which defies logic, so the theory frequently fails to match the practice. Older languages provide only the primitive commands with which to construct loops, while modern languages may offer a more generalised construct that can be adapted, or include the most common types of loop - leaving more esoteric constructions to the user.

Conditional transfer loops, where the loop terminates on the successful evaluation of a condition, are more complicated than enumerated loops, especially in early languages, because both a condition and a transfer instruction have to be composed. Early versions of Fortran and BASIC allowed the programmer to construct conditional loops from conditional and unconditional transfer commands. In Fortran:

```
1 CONTINUE
  pre-exit-point commands
IF condition GOTO 2
  post-exit-point instructions
GOTO 1
2 rest of program
```

The CONTINUE statement is not completely necessary, but serves as a useful marker to show the beginning of the loop. The contents of the loop are divided into: the commands to be carried out before the exit point of the loop, the exit condition (which is tested each time around the loop), and the commands to be obeyed in that iteration if the condition does not succeed, followed by GOTO 1 which transfers control back to the beginning of the loop (labelled 1). GOTO 2 will be called if the exit condition succeeds and the loop terminates; control will then be transferred to the rest of the program.

This form of loop is common to all languages with direct transfer instructions. It can be specialised to create loops with exit points at the start or end, and generalised to create loops with multiple exit points. The same loop in 8088/86 assembly language would be:

```
loop: pre-exit-point instructions
  cmp al,10h
  jne lpend
  post-exit-point instructions
  jmp lloop
lpend: rest of program
```

The commands to be carried out before and after the exit condition are the same as in the previous example. The beginning of the loop is marked, here with the label loop. The main difference between the two loops is that in assembly language, the conditional transfer out of the loop is formed from a number of instructions. Most machines have a condition code register set according to the result of the last instruction; if the result of this is zero, a zero flag or bit will be set that can be referenced by subsequent commands.

The condition code register is used by conditional transfer instructions such as **jeq label** (jump on equal to zero to code marked by label), which will transfer control to the labelled instruction only if the zero condition bit is set; in other words, control will be transferred to the labelled command if the result of the last operation was zero. The **cmp al,10h** command subtracts the contents of the al register from the value 10h. If the al register reaches 10h then the zero bit will be set.

This will result in the conditional transfer instruction **jeq lpend** transferring control to the instruction labelled lpend (loop end) which marks the beginning of the rest of the program. Thus these two instructions form the exit condition and transfer of control. After the **post-exit-point commands** control is transferred back to the beginning of the loop by **jmp loop** (jump to instruction labelled with loop).

Ada, TurboBASIC/PowerBASIC or QuickBASIC provide a general conditional loop which doesn't require a GOTO instruction. In Ada, this has the form:

```
LOOP
  pre-exit-point commands
EXIT WHEN condition
  post-exit-point conditions
END LOOP
```

In Quick and PowerBASIC this would be:

```
DO
  pre-exit-point commands
  IF condition THEN EXIT DO
  post-exit-point conditions
  LOOP
```

Module 2 provides LOOP, END and EXIT constructs which have a similar effect. If the language does not offer these constructs (as in Pascal which offers only the WHILE and UNTIL loops discussed last week), then they can be constructed using GOTO to transfer control to a labelled point in the program, in conjunction with a conditional selection.

C provides a WHILE loop of the form:

```
WHILE (condition)
{
  list of commands
}
but the UNTIL loop is just a variant of the WHILE loop:
DO
{
  list of instructions
}
WHILE (condition)
```

Most languages provide a simple FOR...NEXT loop for enumeration loops, but in assembly language, the loop must be built up out of primitive commands using an explicit counter and test. The FOR loop in BASIC:

```
FOR i:=start TO end
  list of commands
```

is rather more complex in 8088/86 assembly language:

```
mov al,start
loop: list of commands
  inc al
  cmp al,end
  jle loop
```

• The standard constructions for loops may be fully implemented in a language, or they may be built up from primitives.

• A loop construction may be built up in a different way according to the language used, but the control flow will be the same.

• Some languages may offer specialised commands that can be efficient, but they will be complex and may cause problems to the unwary.

LOOPS IN REALITY

This week, Mary Branscombe looks at looping the loop.

```
LOOP
  pre-exit-point commands
EXIT WHEN condition
  post-exit-point conditions
END LOOP
```

In Quick and PowerBASIC this would be:

```
DO
  pre-exit-point commands
  IF condition THEN EXIT DO
  post-exit-point conditions
  LOOP
```

Module 2 provides LOOP, END and EXIT constructs which have a similar effect. If the language does not offer these constructs (as in Pascal which offers only the WHILE and UNTIL loops discussed last week), then they can be constructed using GOTO to transfer control to a labelled point in the program, in conjunction with a conditional selection.

C provides a WHILE loop of the form:

```
WHILE (condition)
{
  list of commands
}
but the UNTIL loop is just a variant of the WHILE loop:
DO
{
  list of instructions
}
WHILE (condition)
```

Most languages provide a simple FOR...NEXT loop for enumeration loops, but in assembly language, the loop must be built up out of primitive commands using an explicit counter and test. The FOR loop in BASIC:

```
FOR i:=start TO end
  list of commands
```

is rather more complex in 8088/86 assembly language:

```
mov al,start
loop: list of commands
  inc al
  cmp al,end
  jle loop
```

• The standard constructions for loops may be fully implemented in a language, or they may be built up from primitives.

• A loop construction may be built up in a different way according to the language used, but the control flow will be the same.

• Some languages may offer specialised commands that can be efficient, but they will be complex and may cause problems to the unwary.

The al register is used as the loop counter in this example and mov al,start initialises the contents of the register to the value start. The label loop marks the beginning of the loop and the inc al instruction increments the value in the al register by one each time around the loop. The exit condition is tested by cmp al,end which compares the contents of the al register with the value of end. If the values are not the same [je loop] transfers control to the instructions labelled with loop. [je] is jump less or equal and uses the result of the cmp command. A more efficient, but rather more obscure, enumeration loop can be written in 8088/86 assembly language using the 'decrement' and test loop label instruction which decreases the cx register and branches by stages to label if the result is greater than zero. The enumeration loop becomes:

```
mov cx,count
start: list of commands
loop start.
The value of count, which corresponds to the number of enumerations required, is transferred to the cx register by mov cx,count. The loop is labelled with start and the loop start instruction automatically decrements the value in cx each time round the loop and the loop terminates when the value in cx is zero.
```

Higher level languages offer broadly similar constructs for enumeration loops. The DO loop in Fortran:

```
DO 1 i=1,10
  list of commands
```

1 CONTINUE

is virtually identical to the loop in Pascal:

```
FOR i:=1 TO 10 DO
```

BEGIN

```
  list of commands
```

END

and the same loop in BASIC is even simpler:

```
FOR i=1 TO 10
```

list of commands

NEXT i

The FOR construct in C is usually FOR(expression1; expression2; expression3), where expression1 is the initialisation performed once, at the start of the loop, expression2 the test condition which must be true for iteration to continue and expression3 is the increment expression performed at the end of each loop. Hence: FOR(exp1; exp2; exp3)

```
  list of commands
```

] is equivalent to

exp1;

while (exp2)

```
{
  list of commands;
  exp3
}
```

FIRSTCHOICE

LEEDS (0532) 637988
COMPUTERS

WEST YORKSHIRES PREMIERE AMIGA
AND ATARI COMPUTER STORE
UNIT 8, ARMLEY PARK COURT, OFF CECIL ST,
ARMLEY, LEEDS, LS12 2AE

ATARI

CHRISTMAS PACK

Everything you'll need in one super value package! Fully microswitched Cruiser joystick, 10 Sony disks, disk box, mouse-mat, Atari cover plus three extra games of your choice.

ONLY £30.00
with any Atari pack

DISCOVERY PACK

DISCOVER THE ATARI ST

Pop up compressor of the Atari 520STFM, First Basic Language Disk, Neochrome Graphics Package, S.T.O.S. The best selling games creator, ST Tour - Tutorial Disk, Mouse and Manuals.

Plus 4 great games titles Outrun, Carrier Command, Space Harrier and Bomberjack.

ONLY £279.00

NEW TURBO PACK

THE NEW ENHANCED ATARI 520 STE

Now with Indiana Jones and The Last Castle, Crystal Caves, Dragon's Lair, Dragon's Fury, Super Cycle, Outrun, Dragon's Breath, Anarchy, Blood Money, First Basic, Music Money, Hyperpaint and S.T.O.S. the games creator plus 11 leads, mouse and manuals.

ONLY £359.00

EXTRA PACK

1040 STE

The Extended Model (1 meg) version of the Atari STE. This machine is capable of running complex business, graphics and word processing applications. It has 1 Word - word processor, ST Base - Database, ST Calc - spreadsheet, ST Graph, S.T.A.C. - Animator, Creative, HyperPaint, PaintShop, SuperPaint, PaintShop Pro, Metacomm, ST Basic language disk with full manuals, plus mouse.

ONLY £429.00

THE MEGA SERIES

Mega 1 with 1 meg of RAM £509.00

Mega 4 with 4 meg of Ram £1089.00

The Mega ST has long been the professionals choice for CTP CAD and other memory intensive applications plus all the usual business utilities.

Atari SM12 high res mono monitor when bought with a Mega ST or 1040

ONLY £99.99

AMIGA

AMIGA A500 PACK inc. Workbench 1.3, Amiga Basic, mouse, TV modulator, leads, extras disk, PSU, manuals and tutorial
£349.00

FLIGHT OF FANTASY
PACK £369.00
ONLY UNTIL
STOCKS LAST

SCREEN GEMS PACK

A500 pack as STD plus Back to the Future II, Days of Thunder, Knightbridge, Shadow of the Beast III! And Deluxe Paint II £369.00

With any Amiga pack you have the option to buy the amazing

ASTRA PACK

10 incredible games inc. E-Motion, Kit Gloves, Powerplay, RVF Honda, Town & Babel, Shovelpunk Cafe and many more

ONLY £24.99

CHRISTMAS PACK

TAKE THE HEADACHE OUT OF BUYING A COMPUTER THIS CHRISTMAS

No need to shop around, we'll make sure you get everything you need in one superb value pack.

Comprises any Amiga game pack plus #1 top quality Cruiser joystick, mouse mat, 10 disks, Amiga fitted cover and 3 extra games of your choice!

£399.00

CLASS OF THE 90'S BUSINESS PACK

NOW WITH 1 MEG OF RAM AS STANDARD!!

A500 pack plus Kindwords 2.0, PageWriter, Artists Choice, Impact, and SuperPaint, logo, Superbase Personal, BBC Emulator, Deluxe Paint II, Maxigraph, Spreadsheet, DR T's, Mid Recording Studio, Midi interface, mouse mat, 10 disks and diskette storage wallet

£539.99

New in stock "First Steps Pack" similar to the Class 90's Pack but aimed at a younger age group

AMIGA 1500

THIS MUST BE ONE OF THE
BEST VALUE AMIGA
PACKAGES YOU CAN BUY
SPECIFICATION:

- Commodore 1084 stereo monitor
- Dual drives as standard
- 1000K hard disk as standard
- Platinum Works integrated business package inc. wordprocessor, database and spreadsheet

- Deluxe Paint II graphics package
- Battle Chess III 3D chess simulation
- Top Gear racing flight simulator
- Sim City - Terrain Editor
- Populous - Premised Lands

ONLY £1089.00

PRINTERS

STAR LC10 MONO
The excellent LC10 is packed with features normally found in much more expensive printers
 • 9 pin print head
 • 4k buffer
 • 144 CPS draft
 36 CPS NLO
 • Multiple built in fonts.

£159.00

STAR LC200 COLOUR

9 pin head, 180 cps draft, 225 cps high speed draft
Epson LC220 colour printer speed
drill 67 cps LQ, 70K
buffer expandable to 39K,
10 resident fonts 11.7"
carriage (landscape)
serial interface option.

ONLY

£209.99

STAR LC24-200 COLOUR

24 pin head, 200 cps draft
Epson LC220 colour printer speed
drill 67 cps LQ, 70K
buffer expandable to 39K,
10 resident fonts 11.7"
carriage (landscape)
serial interface option.

ONLY

£249.99

STAR LC24-200 COLOUR

The 7 colour version of the new 80 col 24 pin
LC24-200
NOW IN STOCK!

ONLY

£299.99

CITIZEN SWIFT 24

Superb quality 24 pin machine
 • 24 Pin print head
 • 192 CPS draft
 • 120 CPS LQ
 • 8K buffer expandable to 32K
 • Optional colour capability 360 DPI
 • Add £34.99 for colour option
 • 2 year warranty

£289.99

EPSON EP-L7100 LASER

- A4 page laser printer
- Multiple built in fonts
- 512K memory
- Expandable to 6Mb
- 300/300 DPI graphics
- 6 pages per minute
- Small footprint

£919.99

3.5" BULK DISKS

SONY/VERBATIM
100% ERROR FREE,
135TPI, LIFETIME
GUARANTEE

| | |
|----------|---------|
| 10..... | £5.99 |
| 25..... | £12.99 |
| 50..... | £22.99 |
| 100..... | £39.99 |
| 200..... | £74.99 |
| 500..... | £159.99 |

SONY BRANDED 3.5"
In boxes of 10.....£9.99

DISK DRIVES

HIGH QUALITY EXTERNAL FLOPPY DISK DRIVES

CUMANA ATARI
CSA 354 1 MEG EXT.
ONLY £72.99

CUMANA AMIGA
CAX 354 1 MEG EXT.
ONLY £69.99

RAM EXPANSION

ASHCOM 1.8 MEG FOR THE AMIGA Inc. Clock

512K populated.....£56.99
Meg populated.....£93.99
1.5 Meg pop.....£114.99
Fully (1.8 Meg).....£129.99

ASHCOM 512K RAM
EXPANSION Inc.
CLOCK
£37.99

REMEMBER WE OFFER
 • Fast Mail order service
 • FREE postage in UK mainland
 • FREE 2-3 day courier service
 • Next day delivery (UK extra)
 • Goods in stock before despatch
 • Call into our showroom
 • Spacious free parking
 • Full repair service Free estimates
 • IT COSTS LESS AT FIRST CHOICE!

HARD DRIVES

AMIGA A590 20 MEG

£289.99

NEW LOW
PRICES!

AMIGA A590

(2 Meg of RAM)
£359.99

DRAM CHIPS (256K * 4)

Quantity = 4.....£34.99 each

Quantity = 8.....£47.50 each

Quantity = 16.....£58.00 each

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

(removable cartridge drive)

£589.00

(as 30 Meg spec)

£439.00

£799.00

**Cadbroke
Computing
International**



**12 Months On Site Warranty,
featuring 24 hour response time
is available as an option on all
ST's for just £29.99 extra.**

Please Read: Terms of Sale.

We are the longest established Atari dealer in the UK. We have developed an extensive customer service policy which means that we test all Hardware/Software prior to despatch to ensure that goods arrive in working order. Although our prices are always the cheapest we do endeavour to offer consistently good service and backup. This isn't just our opinion we were voted "Best Dealer 1989" by the readers of ST World magazine, not for "the number of boxes shifted", but for quality service.

On Site Warranty: We have recently changed our backup programme by offering 12 months on site warranty as an extra with all ST's therefore giving the customer a wider range of options. We already offer on site warranty on all Star printers and Philips monitors sold at no extra charge.

All prices are correct at copy date 2/12/90 and are subject to change without prior notice. All prices are accurate while stocks last. Prices for up to date prices. All prices include VAT, there are no hidden extras (WYSIWYG). Delivery (in Mainland UK) is free, on orders over £100 add £10 for next day courier delivery. All prices available on Mail Order Shop prices may differ.

Atari Packs

| | |
|---|----------|
| 520STFM Discovery Pack | £ 279.99 |
| 520STE Turbo Pack | £ 369.99 |
| 1Mb STE Turbo Pack | £ 399.99 |
| 2Mb STE Turbo Pack | £ 474.99 |
| 4Mb STE Turbo Pack | £ 549.99 |
| Plus pack: ten games, J/stick, Dustcover Lynx + California games | £ 30 |
| Portfolio pocket PC | £ 129.99 |
| | £ 199.99 |

Amiga Packs

| | |
|------------------|---------|
| A500 Batman Pack | £369.99 |
| A500 Screen Gems | £369.99 |
| Plus pack | £30 |

Includes Tenstar, Photon paint II, joystick, mouse mat

Service Centre

Diagnostic service £15

Our Engineers can repair ST's and Amiga's in minimum time at competitive rates. We also offer a diagnostic service for which the customer is given a quote for the total cost of repairing the machine.

ROM switch + TOS 1.4 £49.99

This switch allows two sets of ST ROMs to be fitted to an ST and switched between to ensure compatibility with all software. Machines must have TOS 1.09 in two ROM form. If six sockets are fitted, no soldering is required. TOS 1.4 (2 ROMs) and two extra sockets are supplied.

Exchange ST PSU's £59.99

We can offer fully compatible PSUs for ST's at this price in exchange for the damaged PSU. Our Engineers can fit any ST/STFM memory upgrade for £20. We can also fit SIMMs, TOS, Blitter chips, PSU's for Letz.DT. Phone for details.



Printers

| | |
|-------------------------------|----------------|
| Star LC-200 | £219.99 |
| 7 Colour printer | |
| Colour & mono ribbon supplied | |
| 226 cps | |
| 5 Resident LC fonts | |
| Accepts 300 cartridge ribbons | |
| Bottom feed | |
| Push or pull tractor feed | |
| Paper parking | |

| | |
|-------------------------|---------|
| Star LC-24/10 | £209.99 |
| Star Laser 800, 2Mb RAM | £199.99 |
| Star LC-10 | £199.99 |
| Star LC-10 Mk II | £199.99 |
| Citizen Swift 24 pin | £310.99 |
| Citizen 1200+ | £309.99 |

Star LC24-200

£249.99

24 Pin printer

226 cps

6 Resident LC fonts

Accepts 300 cartridge

ribbons

Bottom feed

Push or pull tractor feed

Paper parking

Star LC24-200 Colour

£319.99

24 Pin printer

226 cps

6 Resident LC fonts

Accepts 300 cartridge

ribbons

Bottom feed

Push or pull tractor feed

Paper parking

Monitors

| | |
|---|----------|
| Atari SM124 Hi-res Mono monitor | £ 109.99 |
| Philips 8833 MK II Colour, Stereo monitor | £ 249.99 |
| Cmdr 1084S Colour monitor * limited offer * | £ 269.99 |
| Philips 15" FST TV | £ 269.99 |

The Philips 15" FST TV includes: remote control, Scart input, 80 tuner presets, sleep timer and Faststart. All displays include Scart cable. Deduct £10 from Monitors only if bought with computer. The Philips 8833 comes with full 12 months on site warranty.

Trust PC's

| | |
|----------------------------------|----------|
| AT 12MHz Desktop | £449.99 |
| AT 12MHz VGA Mini tower 40Mb | £799.99 |
| AT 16MHz Desktop | £499.99 |
| AT 16MHz VGA Mini tower 40Mb | £849.99 |
| 386SX Mini tower | £899.99 |
| 386SX VGA Big tower CK68 40Mb | £1099.99 |
| 386SX-20 VGA Mini tower 40Mb | £1129.99 |
| 386-25 VGA Mini tower | £1194.50 |
| 386-25 VGA Big tower CK68 40Mb | £1599.99 |
| 486-25 VGA Big tower CK590 210Mb | £1699.99 |
| Mono Monitor | £POA |
| VGA Colour Monitor | £299.99 |

PC Emulators

| | |
|-----------------------|---------|
| PC Speed, XT Emulator | £99.99 |
| AT Speed, AT Emulator | £199.99 |
| ATOnce, AT Emulator | £199.99 |

Midistudio Master

- 100 tracks storage, 20 tracks playing simultaneously.
- 240 ppq resolution.
- Realtime mix-down via mouse.
- Realtime scrolling arrange window.
- 11 levels of quantise, including人性化.
- Pipeline/Module system.
- Loop record.
- Midi soft keys.
- Works on 1040STF(M)(E)

**Master
£129.99**

Midistudio

£49.99

Midistudio is a 20 track sequencer which can operate on a 520STF(M) in medium res. Midistudio is an easy to use, low cost introduction to Midi music composition.

ST FAX/Modem

Now you can use your ST to send faxes. Uses a fully featured modem so you can also access Bulletin boards and commercial communication systems.

- Fully Hayes compatible modem
- Auto dial/ Auto answer
- 300/1200/2400 Baud
- Mix text and graphics.
- Cannot receive faxes.

£200

Lantech Netwk

We are the UK Distributor of the Lantech Network

- Use Cartridge port.
- 10 Megabit per second data transfer rate.
- Up to 200ft between ST's.
- Any computer can be configured as a server to share Hard, Floppy, RAM disks and Centronics printer.

Lantech server £374.99 Lantech Add-on-Kit £179.99

Ladbroke Computing

Low cost Hard Drives

We use only top quality, brand new, CDC or Quantum mechanisms.

We use American Military Standard quantum mechanisms in some of our Hard drives which are very high quality and come with a 2 year manufacturers warranty (from date of manufacture)

| | | |
|---------------------|-----------|----------------|
| 42HD-42Mb 11ms | New Price | Only £ 399.99 |
| 45HD/25 - 45Mb 25ms | | Only £ 399.99 |
| 84HD - 84Mb 24ms | | Only £ 579.99 |
| 111HD - 111Mb 15ms | | Only £ 699.99 |
| 211HD - 211Mb 15ms | | Only £ 1099.99 |

We can assemble any of above Hard drives with ICD boards which include a clock configured as DMA device Number 6 for an extra £15

Phone for other capacities

Peripherals

| | |
|---|----------|
| Amiga 2nd 3.5" disk drive | £ 59.99 |
| MCS Mouse (ST) 270 Dpi, microswitched | £ 20.99 |
| Golden Image Mouse (ST or Amiga) 290 Dpi, microswitched | £ 20.99 |
| That's A Mouse (ST and Amiga) | £ 24.99 |
| 290 Dpi, microswitched, Switchable between ST and Amiga | |
| Contract Ball (ST or Amiga) Trak ball | £ 34.99 |
| Topstar Joystick | £ 23.95 |
| Golden Image Hand scanners (ST or Amiga) | £ 224.99 |
| Golden Image scanners feature 100, 200, 300, 400 Dpi resolution. | |
| 10.5mm scanning head, 64 grey scales and Excellent "Migraph Touch up" software. | |
| Forget Me Clock | £ 24.99 |
| 40 disk box, lockable | £ 8.99 |
| 80/100 disk box lockable | £ 9.99 |

A4 Scanner

- 200 Dpi scanner.
- 16 grey scales or Black/White mode.
- High quality thermal image printer.
- Acts as photocopier.
- Works with ST, Amiga, PC, requires 1Mb RAM.
- Amiga version includes Photon Paint & Comes complete with software, cable, thermal paper.
- Thermal paper available ex-stock at £7.99 per roll.

IMG scanner
£49.99

ST or Amiga Version

£449.99

PC version, board

£479.99

The IMG scanner is a device for scanning photocopied material @ horizontal resolutions of up to 1000 Dpi on ST, when used in conjunction with an Epson compatible printer.

CUMANA

3.5" Drives

| | |
|----------------------------|--------|
| CSA 354: ST 3.5" drive. | £69.99 |
| CAX 354: Amiga 3.5" drive. | £64.99 |
| ST Internal drive upgrade. | £64.99 |

The Cumana ST internal drive requires the ST's case to be modified (full instructions supplied). The external ST drive is a high quality, slim, quiet drive which comes complete with integral power supply and so does not draw power from the ST, which could cause problems. Add £3 P&P for drives.

How to Pay

You can phone your Access or Visa card details or send a cheque/postal orders made payable to Ladbroke Computing International. Please allow sufficient clearance time for postage.



33 Ormskirk Road, Preston, Lancashire, PR1 2QP Open Monday to Saturday 9.00am to 5.00pm. Phones answered from 8.00am. Dealer enquiries welcome. Ladbroke Computing International is a trading name of Walton Marketing Limited. All trade marks recognised.

- Autoperking 3.5" mechanism.
- Full metal case suitable as monitor stand.
- On/off button and DMA device selector.
- mounted on front.
- Integral PSU.
- DMA Cut port for daisy chaining.
- Megadrive controller, low power, controls up to 16 SCSI drives.
- Compatible with emulators such as Spectre GCR, AT Once.
- Up to 16 GEM partitions (255 with TOS 14), up to 1 Gigabyte in size.
- Selection of Accessories/boot partition with boot editor.
- Backup & utility software provided.

New Prices

Upgrades

Amiga boards

Includes Enable/Disable switch

512K upgrade board £34.99

512K board with clock £39.99

| | | | |
|------------------------------|----------|----------------------------|----------|
| 512K STFM, 16 or 4 chip kit. | £ 38.99 | 512K ST board/chips, kit | £ 58.99 |
| 2Mb ST board/chips, kit | £ 159.99 | 4Mb ST board/chips, fitted | £ 344.99 |
| TOS 14 kit (8 or 2 ROMs) | £ 39.99 | STFM Bitter chick, kit | £ 36.99 |

Please check the configuration of your machine with our staff before ordering any upgrade. See service centre for fitting charges. All upgrades carried out by our service centre carry a 90 days parts and labour guarantee. Please add £150 P&P for upgrades priced under £100.

STE SIMM's

512K SIMM's upgrade £39.99

2Mb SIMM's upgrade £119.99

4Mb SIMM's upgrade £239.99

Spectre GCR
With 128K ROM's

£369.99

"Power of the Mac, without the price."

- Reads, writes and formats Mac disks.
- Supports Hard drive and second floppy.
- Compatible with STE, Stacy.
- 30% bigger screen area than Mac Plus.
- Runs 20% faster than Mac Plus.
- Software upgrades available.
- Send SAE for Spec' sheet.

We are the consistently longest serving supplier

Quality Disks

| Qty. | Bulk Sony or Kao | | Sony Brand Boxed in 10's |
|------|------------------|---------|---------------------------------------|
| | Loose | Boxed | |
| 10 | £ 5.99 | £ 6.99 | Includes x10 Hybrid black plastic box |
| 40 | £ 20.99 | £ 26.99 | Includes x40 Lockable disc box |
| 100 | £ 48.99 | £ 57.99 | Includes x100 Lockable disc box |
| 150 | £ 66.99 | £ 83.99 | Includes x150 Stacking disc box |

All bulk disks are top quality Sony or Kao, not cheap seconds. All disks carry an unconditional lifetime guarantee. Please add 75p P&P for each 10 disks.

Ladbroke Computing International



(0772) 203166 Fax 561071

PC & 68000 PROGRAMMERS

Please tick the following in order of preference:

- Excellent salary
- Friendly working environment
- Job satisfaction
- Challenging projects
- Recognition of productivity
- The best development tools
- Technical-based management
- Worldwide distribution of products

We give all of these top priority at DI and we are looking for experienced programmers to join our in-house team. Please call or send your c.v. to:

Dave Marshall
Digital Integration Ltd
Watchmoor Trade Centre
Watchmoor Road
Camberley, Surrey
GU15 3AJ

Tel: 0276 684959



DO YOU WANT TO BECOME A PROGRAMMER?

Move across to the rewarding
world of IT

We have a series of short and long term training programmers in Computing and Information Processing.

- * C & G 424/425 Certificate in applications programming.
- * C & G 418 Computer Programming & Information Processing.
- * Evening courses in DBASE, WP, Spreadsheet Analysis.
- * Evening courses in Pascal, BASIC & COBOL.

Contact Central London College on
071-580 4596..

TRAINING FOR YOUR FUTURE

BILINGUAL RETAIL MANAGER REQUIRED FLUENT IN FRENCH & ENGLISH AN ESTABLISHED ENGLISH RETAIL INDEPENDENT CHAIN intends to open stores in FRANCE in 1991

The position requires a young person able to manage first one store then a group in France. It will include the ability to recruit staff, supervise buying, accounting and advertising.

The salary would be commensurate with status, would be a French level director status and would include stock options.

Aid to cost of relocation would be included as would the use of a company vehicle.

The right person would expand with the company, be self motivated and experienced in both fun computing and marketing.

This position has already been advertised within our current staff. We are Equal Opportunity Employers. This position is open to all EEC residents or others qualified to work in France.

**Replies in writing with full CV to NCF
Box No.43 - Replies, Beaufort Court,
30 Monmouth Street, Bath, Avon BA1 2AP**



Established 1985

WANTED!

Technical writer/

Staffwriter

● Launched in 1985
● Now over 160 staff
● 10 national newsstand magazines
● Market leader in computer titles
● Exciting launch plans
● Britain's fastest-growing publisher

Britain's fastest growing publishing company, Future Publishing, is looking for a talented and ambitious writer with a sound technical knowledge of computers and the ability to convey that knowledge in an informative and entertaining manner.

Future, based in beautiful Bath,

already publishes *Amiga Format*, *ST*

Format, *New Computer Express*,

Commodore Format, *Your Sinclair*,

Amstrad Action and *Sega Power*, as well

as *PC Plus*, *8000 Plus* and *Mac Publishing*.

In return for your blood, sweat etc

etc the company offers a good salary, an excellent working environment and the opportunity to take on new and exciting challenges as Future continues to expand.

If you have good reason to think

Future needs you, send your CV, together with examples of published work – or a 500 word review of a recent piece of hardware or serious software – to Greg Ingham at the address below. Do it today if you know what's good for you.

16
BIT
POWER

SEGA

16
BIT
POWER

MEGADRIVE

IMPORTED DIRECT FROM JAPAN!

NOW ONLY!

£149.99

OR £169.99
INCLUDING SUPER REAL
BASKETBALL!

LATEST TITLES IN STOCK NOW!

SHADOW DANCER NEW!!
MICKEY MOUSE NEW!!
MOONWALKER
DYNAMITE DUKE
ARROWFLASH
FIRE SHARK
E-SWAT
RAINBOW ISLANDS
HELLFIRE
GOLDEN AXE
STRIDER
THUNDERFORCE III
SUPER REAL BASKETBALL
AXIS
JOHN MADDENS FOOTBALL NEW!!

JAPANESE/ENGLISH
GAMES CONVERTER ONLY
£19.99

Microbyte Megadrives are fully compatible with all UK, US and Japanese Megadrive cartridges and come complete with a 12 month replacement guarantee, so if your Megadrive develops a fault within the first 12 months, we will replace it with a brand new machine! Official Megadrive owners please note! You can now play all the latest Japanese releases with our special easy fit Japanese/English games converter, available now for only £19.99. Quadruple your available games library today!!

TO TAKE ADVANTAGE OF THESE AMAZING OFFERS,
SIMPLY CALL IN AT YOUR LOCAL

MICROBYTE HOME ENTERTAINMENT CENTRE

| | |
|------------|--|
| SHIFIELD | 52 High Street, Meadowhall. Tel: 0742 568537 |
| MANCHESTER | 176 Halle Mall, The Arndale Centre. Tel: 061 832 1438 |
| LEEDS | 34/36 County Court Arcade. Tel: 0532 450529/441287 |
| DONCASTER | 20 Cleveland Street. Tel: 0302 329999 |
| LIVERPOOL | 128 St Georges Way, St Johns Centre. Tel: 051 707 1931 |
| PRESTON | 11 Friargate Walk, St Georges Centre. Tel: 0772 882243 |
| NEWCASTLE | 46/47 The Green Market. Tel: 091 261 9050 |
| BRADFORD | 1 Kirkgate Mall, The Kirkgate Centre. Tel: 0274 308829 |
| GATESHEAD | 56 Garden Walk, The Metro Centre. Tel: 091 460 6054 |
| NOTTINGHAM | Upper Broadwalk, The Broadmarsh Centre. Tel: 0602 586454. |
| WAKEFIELD | 33 Kirkgate. Tel: 0924 376656 |
| BIRMINGHAM | 424 Grand Parade, The Bull Ring Centre. Tel: 021 616 1036 |
| GOOLE | 5 Pasture Road. Tel: 0405 763183 |

OPENING TIME

Christmas is humbug last year, was visited by three pompous shades: the ghost of computing past, the ghost of computing present, and the ghost of computing future. They were all self-obsessed, and due to a flim-flam cock-up they all appeared at once.

Past blithered with Present about the growth of personal computing: "It's turned a pure, powerful machine into a noisy, penny-anony machine which plays games and beep. It's a travesty," Tim spelt opined. "I regret the days when hardwiring was a man's job. When a computer could fill the dining room at Buckingham Palace. When you would mistake a computer for a piece of desk decoration."

Present was a psychopathic chap. On one one hand it simply wouldn't believe that Future could exist. On the other it worshipped it for what it believed were going to be:

"40MP internal hard drives, the size of bits, 3D colour screens, direct human-computer interfacing, and lots of designing systems".

The ghost of computing structure was emerged by several comments and so could not comment anything other than to say: "On the record I would like to make it clear that any advances will be made with the interest of the end-user in the forefront."

If was only after I had closed the curtains around the Zefiro auto-poster human-sleep interface unit and dropped off to sleep that I remembered what it was they were there for and attempted to communicate some facts about themselves. Here unrolled down from what they said:

PAST: Computing is no business for the man in the street. It should be carefully controlled by astute minded professionals and people who know how to control the power.

PRESENT: My computer is bettering your computer. Computing is a free-spirit which should be taught to children at an early age and which should only be wreathed in confusing mists when people start to understand it.

FUTURE: No comment. On the record computing is rather common-place actually. In fact it has moved into two distinct realms: philosophy and practical use.

With that I kicked them all out and got back to reading my *Turbo Pascal* or *Extremely Clever People guide*.

So, happy Christmas to you all. Don't believe the hype and refrain from returning to this column bleating about being given a copy of *Teenage Mutant Ninja Turtles* by your aunty Mo.

Tim Smith's

Write to 30 Monmouth Street, Bath BA1 2BW (if you dare)

CEN

THAT WAS THE BEGINNING NEW DECADE THAT WAS

The year is very nearly dead and gone. What did it bring us in terms of wacky on-the-cutting-edge computing goodies? Of course Express was there to report it all in full and with its usual brand of incisive, cool, intelligent, astute, insightful, informed, unequalled, unparalleled, dynamic, rough, tough, stylish, up-front, timely, manner. In fact New Computer Express managed to make it to the end of the year as the only computer weekly, newsstand title. And what did it have in store? Read on:

THE JOKER IS A VIRUS AND BATMAN IS THE ANTIDOTE (EXPRESS 61)

We reported that a new comic book entitled *Batman: Digital Justice* was to be launched. Not only was the graphic novel, (buzzwords for the 1990s or what?) set in a computer, all the characters were produced using a Macintosh as well. The headline for the piece should tell you what the story was about. But just in case it doesn't, Batman played the antidote to a virus and the virus was the joker. We were right as well - it's published by DC Comics at £15.95 in our local Waterstones.

CHESS MAN LOSES AT LAST (EXPRESS 61)

Not Carl Chessman the notorious American murderer but international chess grand master David Levy who lost to Deep Thought - not the computer from *The Hitchhiker's Guide to the Galaxy* but the dedicated chess playing computer. Deepie beat Levy in four straight games.

WANTED: CYBER BUSINESS MAN (EXPRESS 62)

British businesses had finally woken up to the fact that a computer literate manager was more useful than a golf literate one. Well, tell us something we didn't know.

WE'VE MADE SOME MISTAKES, SAYS GLOOMY OLIVETTI (EXPRESS 62)

See the last line of the previous story.

A brief break from the heady news section with editorial assistant Dave Goldfarb's in full:

- 1) Freezing at Knobworth. (*We'll that's interesting*)
 - 2) Freezing at an IBM Formats Fair. (*What? A computer reference?*)
 - 3) Freezing at Bracknell railway station. (*That's better!*)
 - 4) Freezing on the M4 when my car broke down. (*Oh woe is thee!*)
 - 5) Being uncomfortably hot at Orlando airport. (*Ouch really?*)
- And now we return to our scheduled programming ...

THOMAS GETS TANKED UP (EXPRESS 68)

Yes, yes, Thomas the Tank Engine made a mad dash away from Ringo Starr in an attempt to avoid tedious stories about Hamburg, the Cavern and Babs Bach.

Tough Tommy steamed - but not as steamed as (*sorry, that's been censored - Sub*) onto the software scene. He got as far as Alternative and begged to be turned into a computer game.



Autumn Launch for CPC Trio

CALLED OFF (EXPRESS 64)

One of the world's most sophisticated computers, at AT&T's huge software centre, hung up on several million American computer users. Er... reach out America?

CS ALIVE (EXPRESS 65)

Ex-doyen of the UK computer scene, Sir Clive Sinclair, was thinking of launching a follow-up to his much maligned C5. The C5 'up-grade' was to have a staggering 32-mile range which is more than you can say for a Spectrum. (See also Express 98)

GAME ON (EXPRESS 66)

London played Manchester in a live darts match last week - and neither side left home. Yes it was all too horrifyingly true. Competing for the professionally obese became a reality with two modem linked, computerised dartboards.

PROGRAM CAN BEAT SPORTS CHEATS (EXPRESS 67)

Dog taking weightlifter Ricky Chaplin got his picture in Express under a story about a PC program which analyses the performances of athletes and looks for anomalies.

ALL RIGHT THEN WE'LL MENTION THEM (EXPRESS 71)

Domine Wheatley and Mark Strachan of Domark fame appeared in this issue dressed as a knight in armour and a damsels in distress. Well done lads.

COMPUTER DINNER (EXPRESS 71)

Bottins at Georgia Technical College - in America that is - developed a computer called Julia which acted the perfect hostess. You programmed the favourite and most hated foods of your guests into the machine and Jules came up with the menu.

VIRUS FOR SALE (EXPRESS 76)

American hacking magazine 2600 came up with the zany idea of giving away the decompiled source code for the infamous Worm virus which ploughed through the Internet computer system.

TRAVEL BY MICRO (EXPRESS 77)

New "hole in the wall machines" were being mooted as possible ways of booking airline tickets. Birmingham-based Holiday Now were to place seven such magic ticket machines around the country. If you saw one, or even better if you used one, please write in and tell us.

MENTAL OR WHAT?

Find out what this man is doing and why on page 62

INTREFOLD

ING OF A

COMPUTER VERDICT ON UNFIT DRIVERS (EXPRESS 77)

Cars would soon come equipped with computers which could assess whether naughty drivers had imbibed one Babysham too many. In the event that a tipsy driver attempted to start his, or her, car the computer would go all thin-lipped, clamp on the brakes and absolutely refuse to budge.

GET THE DRIFT (EXPRESS 78)

Zuk on that Zuk, a virus which caused cursors to move diagonally across the screen appeared on Macintosh computers. It was spotted gliding around Italy in true Bagio style.

A PEEK AT THE CYBER FUTURE (EXPRESS 78)

McKinley Conway, a 'futurist', let the world know what his predictions were for the 21st Century. Highlights included:

- Computerised motorways with cars driven by robots. (Someone is currently writing a program which randomly repeats the three phrases "Are we there yet?", "Want to go for a pee-pee" and "Waaa! Bobby keeps pinching me" which can be played from the back seat.)
- Direct links between the human brain and computers would allow for the upload of a person's dying thoughts. (Such as "Oww what is this cable doing sticking out of my head?")

Yet another intermission. This time it's from the boss man. Andy editor with five memorable points in his 1990.

- 1) My first trip into virtual reality at the 1990 computer graphic show.
- 2) The prominence of black rap-house-hip-hop-funk as the premier sound
- 3) New-age hippies, who didn't have to live through the damn seventies in the first place, proving that originality is the scariest commodity on the market. And I thought Mancunians were sharp.
- 4) Working with the greatest con-man ever born.
- 5) The year in which multimedia not only became possible but passed too. And now we return to our scheduled programming...

● Strict government birth control programs with penalties for families who have too many children. (This is not thought to have the full backing of VaticanSoft.)

This time we have a message from our production editor Julie Tolley:

- 1) Learning the difference between logical memory and physical... or what was word again?
- 2) Tim giving me my own Intel chip.
- 3) Gusk Xpress 3 - getting through the learning curve.
- 4) Maggie getting kicked out.
- 5) Moving one year nearer to being 30! And now we return to our scheduled programming...

COMMENT (EXPRESS 79)

Do you remember the old Express Comment pages? Well one of them was a true classic and this is what the call-out on page 7 said in relation to the Robot Olympics: "What will pass for a sex-test among the cyber competitors is something which defies speculation."

ATARI FOUNDER JOINS COMMODORE (EXPRESS 80)

In what can only be seen as a gallant attempt to put a stop to the petulant "My computer is better than yours" argument Nolan Bushnell, the man who founded Atari went over to Commodore as manager of computer interactive products.

COMPUTERISED ID TAG WARDS OFF THE BABYHAPPERS (EXPRESS 81)

Not just the longest headline in the history of Express but a really important story too. All you had to was staple a microchip to your infant child, connect a wire to the chip and bingo, anyone attempting to steal your little poppet from outside a store was blown up by a small explosive charge in the chip. (NB One of the stories in this blast from the past rundown is not strictly true. Can you guess which one?)

GAMER OVER (EXPRESS 82)

Convicted murderer Leonard Laws was executed by lethal injection after a hearty breakfast and a few hours playing with his Nintendo. Of course this was in the United States, they don't have Nintendos in UK prisons yet.

JUST ONE MENTION FOR HIM... (EXPRESS 83)

Yes, another 'industry figure' dressed stupidly this year, so the Domark's are not the only ones. Luther De Galle of Electrocom decided to get himself all dolled up as a Roman soldier in order to push the coinop conversion of *Time Soldiers*.

NEURAL NETWORKS ON THE NOSE (EXPRESS 84)

Back to Express' hoover fixation with a story about Warwick University's artificially intelligent computer which had been 'trained' to identify five different types of alcohol by smell. Sadly, it turned out that the machine was to be trained not as a wine buff - but as a food freshness inspector.

COMPUTERISED COACH ANALYSES SOCCER SKILLS (EXPRESS 84)

Two Liverpudlian scientists explained to us all the reason why Liverpool FC has actually not stopped winning for the last 2,000 years. The two researchers had developed a computer which could be used to expose a footballer's weaknesses. It could also predict the patterns of play to produce the best tactics. The machine was not called Oor Kenny.

IT'S LISA WITH AN AAAAM... (EXPRESS 85)

Consumer culture or what? Apple decided to bury 2,700 Lisas in a landfill outside its Logan, California office. The company had not been offered enough money by a salvage firm. Seems a bit off when there are third world countries like Luxembourg with only one Lisa for the population of seven.

NELSON'S TAPE (EXPRESS 86)

A planned ticker-tape welcome for recently freed Nelson Mandela was

We will now take a short intermission to bring you 'Express' darling of the techie world Keith Pomfret's Top Five events of this year:

- 1) Breakfast at the Ritz. (Yummy).
 - 2) Lunch at Acorn. (Yech, pizza).
 - 3) Afternoon Tea at BAFTA. (Acorn again... no food).
 - 4) High Tea at the CES. (Did I really eat field hot dogs).
 - 5) Dinner in Leningrad. (Sturgeon really quite scrummy. So's cavar...)
- And now we return to our scheduled programming...

This time you get to hear from art assistant Matthew Williams:

- 1) Betty Davis died. (There's going to be computer ref so on.)
 - 2) I left college, Thatcher resigned. (Politics, politics.)
 - 3) Cheap Macs launched. (Ah there we go, a computer name-check.)
 - 4) Unification of Germany. (And a dodgy tree kick.)
 - 5) Ceausescu executed. (And often misspelt.)
- And now we return to our scheduled programming...

nearly abandoned in New York. This had nothing to do with objections from the KKK and more because business were using more computers than ticker-tape machines; ergo no tape. Instead of NY authorities had to import 150 miles of paper ribbon.

XENON FEATURES IN PRESTON LABOUR EXCHANGE (EXPRESS 86)

A clever headline which masked the fact that Debra Preston waited until she had made the high score on *Xenon II* before going off to have her baby daughter. Tara was born in Trent City General Hospital only hours after mum had scored some amazingly huge figure on her Atari 520 STFM.

GIVE A MONKEY AN APPLE MAC AND SHE WILL READ HER BOOKS (EXPRESS 88)

The story of the ape taught to use a Mac for 'reading' picture books - a dreadfully headline that eventually led to its writer being sacked.



AN ILL WIND (EXPRESS 89)

The Frankie virus was discovered in the USA. Frankie went out in search of STs which were running pirated versions of the Aladdin Macintosh emulator. Once it found the copied software running it dropped small bomb icons, put up the message "Frankie says No More Piracy!" and proceeded to trash any application files.

BIG BLUE SEES RED, AT WHITES ONLY (EXPRESS 91)

IBM decided to pull its TV advertising during the US PGA Championship because the Shoal Creek club had a whites only policy. Despite this laudable action, when contacted for a comment IBM remained as silent as ever.

OH WHAT A GIVEAWAY! (EXPRESS 92)

One man + one Toyota MR2 + one talking computer + two many drinks = serious trouble. 18 year old Micheal Leone careered into a police car so hard "that it

A timely break from all this history with Tim Smith's 1990 in five easy chunks:
 1) Playing chess in a revolving hotel bar - 72 floors up in Atlanta while a helicopter flew below, whoopy doo!
 2) Moving from a PCW to a Mac Plus.
 3) Interviewing Ralph Steadman over the phone about his computer art.
 4) Hearty seeing the psychic PCW's prediction for an England World Cup final victory.
 5) Not catching a virus on any of my computers
 And now we return to our scheduled programming ...

took the officer 134 feet to bring the car to a halt". Leone remained unharmed but one-over-the-eight in his car. What gave the Miami-based cop the clinching evidence to bust the delinquent was the fact that the MR2's onboard computer was cooing "Slow down, slow down."

SAUCY SILICON FOR SAFE SEX (EXPRESS 93)

How do you fancy having your computer wired "directly to the pleasure centres of your brain"? Well that was the prediction from Mr Milton Roff in the Reno

Gazette Journal. Mr Roff lectures in robotics and came up with the immortal quote "there is only sex organ anybody has in their brain". So that's why hackers are such cold fish.

BBC MAKES A COMFY MOUSE HOUSE (EXPRESS 95)

In the considered opinion of the Centrefold crew what follows must be one of the most scintillating opening paragraphs of any news story this year:

"There's nothing especially fascinating about the computer mouse - unless it's alive, goes squeak and is perfumed of cats. That's the type of rodent inhabiting Pippa Giles' trusty old Beeb."

Yes that's it, a mouse in the machine. However, once it was discovered, the little beggar did a runner - maybe looking for an upgrade.

ALL CHANGE (EXPRESS 96)

No story here but a reminder that this was the last ever issue with the old format. (Slips into BBC history documentary voice) By the following week Shopping Express had changed radically. Express Mail had moved from the back of the mag to the front. And yes, the collectors copy was the last to have PCW, MSX, QL, BBC, and SAM Coupé specific columns. The letters were soon to hit the Express office and continue flowing in for, oooh, days about these changes.

WHAT'S NEW? (EXPRESS 97)

Here it was, the new look Express. For the first time, Colin Campbell's Frontend was there in great readers, six colour pages to begin your read.



Also into the mag came a new look Shopping Express with Console Zone, Express Online, Circus City, Mark Higham's Games Week, a zappier PD Column and of course The Centrefold. Welcomed to the staff were Haydn Fitz-Williams of crisp fave fame, and Richard Frederick.

FIRST WITH THE NEWS! (EXPRESS 97)

Yes Express managed to slip a picture of future prime minister John Major into a story about the PCW being five years old. We don't know if anyone was astute enough to notice but this was our hidden tip for the Conservative party leadership AND IT WAS A MONTH AHEAD OF ANYONE ELSE! (calm down now - sub).

LONDON OVERRUN BY MONSTERS (EXPRESS 98)

Yes it was the CES show guide in full. Written on the spot by news editor C Campbell. The guide gave the highlights of the Earl's Court Computer Entertainment Show. All the highlights save for a number of journalists getting stuck in a lift at 2.00am. More dangerous than you think when one of them was Keith Pomfret!

SIR CLIVE'S DRIVE (EXPRESS 98)

Sir Clive Sinclair finally came through with a new CS (see Express 85). His brand new four seater could do a respectable 70mph and it was greeted



with far less derision than the previous in-car nation. The reason, as Sir Clive was quick to point out: "It's to do with global warming and pollution."

Express says "Jolly well done sir! Here's to you!"

POP SLIPS QUIETLY AWAY (EXPRESS 99)

So it was goodbye, Popular Computing Weekly. Lots of people used to read you, including Keith. But now they don't.

THE SPECTRUM PLUS 3 DIED THIS WEEK - WHY? (EXPRESS 99)

So it was goodbye, Spectrum Plus 3. A few people used to buy you. Including Dave Golder. But now they don't.

GRUESOME EXPLODING HEADS (EXPRESS 100)

Not only did we move into treble figures we also managed to get this classic headline concerning Horror Zombies, a new game from Millenium into the issue.

FIGHT SLIM IN COURT OVER AIR CATASTROPHE (EXPRESS 101)

Only in America, part 1,100,230,221. North West Airlines was suing the makers of a pilot training simulator after one of their planes crashed. The buck, as they would say if there wasn't a danger of litigation, starts here.

INTRODUCING ROBOPANDA (EXPRESS 102)

"Speaking at a recent Police Constables' conference, top cop Charles Kelly predicted that law enforcement vehicles of the future would be fitted with computers, electronic notebooks and sophisticated communications equipment..." The panda can goes cyber. You have 15 seconds to remove your head from the railings.

BARK TO THE FUTURE (EXPRESS 103)

The European Parliament proposed a system of computerised electronic dog registration. Every mutt in the EC would have to be registered. This was estimated at 36 million dogs.

WHAT A WASTE (EXPRESS 104)

£3 million worth of computer which was bought 18 months before for the NHS was still in its packaging. The IBM 3090 mainframe had to be sold for £1 million.

FUN WITH TELLY-TOTS (EXPRESS 105)

A classic caption here. Beneath a picture of a puppet post-person were the immortal lines: "Postman Pat: he delivers letters". Who says we don't invent? The story concerned a new series of games marketed by Friendly Learning. These included characters such as the mysterious Huxley Pig and Express faves

Another interruption. This time it's deputy editor Stuart Anderlon's year in bits.

- 1) Hilda the Hag got her come-uppance
- 2) My rates bill increased evenfold
- 3) The colour NeXT was gobsmacking
- 4) XPress 3 made work/un for a week
- 5) I got married - egocentric me! (and he didn't tell anyone!)

Thomas the Tank Engine, and Scoot'n'Sweep.

TROOPS ON-LINE (EXPRESS 106)

The GIs out in the Gulf could not hope to escape from cute schoolkids, mad grannies, or weirdos because of the new 'Letters from Home' service. This enabled anyone who wanted to, to send Email messages.

NO ONE NOTICED AT ALL (EXPRESS 107)

Not one letter came flooding in concerning the headline which read: "Double Dose of Gasoline". What happened to all our faithful pedants? (Or didn't you know it's spelt with a 'c' either?) By the way, the story concerned a soccer sim compilation called Soccer Mania.

DVI AS EASY AS ABC (EXPRESS 108)

The Jackson family, a popular music combo from the 1970s, announced the launch of its Young Minds company YM is to concern itself with projects involving interactive multimedia, Digital Video Integration and Llamas for the youth.

NORMA SERVICE IS RESUMED (EXPRESS 109)

A picture of a kitten and one of the PM - that's John Major remember lead into a story about Mrs Major presenting prizes for Acorn's National Pet Week Acorn S ch o o l s ' Challenge.

GREAT SCOTT WATSON, WE'RE ON CD (EXPRESS 110)

Watson and Holmes were joining thousands of other characters in the move from paper to CD-ROM. Software Toolworks had just released a new package for the PC.

THAT'S ALL FOLKS

And so we bid fare-thee-well to 1990. It was one of those years in which no one gave you a Mac to do with as you wished, you were not awarded any prizes for inventing new programming languages... basically nothing really wonderful happened. Oh well, let's hope that 1991 works out a little more exciting for you. Personally, I'm off to the pub.





KAO
MF2D
1Mb capacity

THE WORLD'S FINEST DISKS FROM T.D.K. & KAO SERIOUS QUALITY FOR SERIOUS USERS
 RATED ROUGH AND LAMBENT - KAO

| | | |
|------------|----------------|----------------------|
| 1 MEGABYTE | 3.5" MF2D BULK | 50p each or £48.00 |
| 2 MEGABYTE | 3.5" MF2D BULK | £1.00 each or £95.00 |

VIDEO, 6 & 8 DONCASTER ROAD, SOUTH ST.
 NR. PONTEFRACT, WEST YORKS. WF9 2YJ
 TEL: (077) 649100 FAX: (077) 643312

OPENING HOURS:
 Mon-Fri 9am-7.30pm
 Sat 10am-6.30pm
 Sun 10.30am-5pm

HEV LOW
 100%
 200%



SAM COUPE AND SPECTRUM MAGAZINE!
 PROGRAMS,
 UTILITIES, INFO
 IDEAS! NEWS,
 REVIEWS AND HOMEMADE SOFTWARE MONTHLY SINCE 1987!
"OUTLET"
 GRAPHICS,
 AND HELP PAGES,
 SERIOUS SOFTWARE

SPECIAL OFFER! Latest issue £2.50 to newcomers on:-
 +3, DISCIPLE/+D, MICRODRIVE, OPUS, TAPE, SAM DISC
 CHEZON SOFTWARE, 605 LOUGHBOROUGH Rd., BIRSTALL, LEICESTER LE4 4NJ

◆ FOR SALE

PHILLIPS 12" M31 334GH green monitor £25. P.S.U. 90W fully smoothed for internal use fused switched 240V 220. Write to: C.P. Roberts, 414 Lurglawn Lane, Catherline De Barnes, Solihull, B91 2TL. Tel: 021 705 7247.

C64c + C2N, lightgun, £100 + games, 2 monthold £150. Atari 800xl + 2 tape decks, 50+ games, £70. Electron £30. Write: C Johnston, 35 Tonge Head Avenue, Bolton BL1 85Z.

ATARI 130XE XF551 disk drive XC12 recorder sparts Dos ICD Printer connection. Plenty of software games and utilities print shop disk boxes Atari user mags £250. Contact Denis 0543 505096.

INFOCOM Text adventures for CPC/PCW (disk). Ballyhoo, Suspect, Complete original £8.00 each or £15.00 for the pair (original cost was £25.00 each). Write: Jim Fitchie, West Flat, 28 North Bridge, Edinburgh, EH1 1QG. Tel: 031 225 5204, any time after 2pm.

SPECTRUM + (48K).
 Kempston/Sinclair/Cursor joystick +/CE. Prism VTX 5000 modem. Loads of mags. £80. Phone Gloucester (0452) 512234.

DRE 8840 printer, 9 pin, 132 column, 240 CPS, serial interface, nothing fancy just a solid workhorse. £120. Phone Gloucester (0452) 512234.

ATARI STE for sale. Over 50 top new games, 2 joysticks, mouse, loads of cover disks, PD. All games original £375 o.n.o. Phone 0726 822776.

DAMAGED case but fully functional Atari 520STFM upgraded to 1040STFM with perfect SM124 monitor, second disk drive, £500+. software, joysticks, mags. £400. Contact Horay (0293) 784720 evenings. Original packaging available

AMIGA games and utils for sale e.g. Hisoft, Basic etc. S.A.E. for list Nigel, plasnewydd. Abertridwr. Caerphilly. Mid Glam. CF8 2AP Thank you.

PD SOFTWARE FOR £2.00
 Telephone 071-930 0697
 Or write to: **LCS Ltd,**
46-47 Pall Mall, London SW1Y 5JG

ALL COMPUTER HARDWARE AND SOFTWARE WANTED FOR CASH OR EXCHANGE
NOTHING REFUSED!!
071 727 0424

ATARI 520 STFM, 1 MBYTE memory, double sided internal and external drives, SM125 mono monitor, Epson FX80 printer, lots of PD, software, all in perfect working order. £500 total. Phone 0438 840466.

ATARI systems 2000 22MB hard disk £220. Tel (0206) 851488 anytime (Colchester, Essex) will pay £400 for Mega ST.

SPECTRUM +2, with joysticks, VTX 5000 modem and over £500 worth of software with over 100 Spectrum magazines crash, Y.S. and S.U., bargain at £125. Phone Win (0962) 881426 before 6.30pm.

AMIGA Centronics printer lead brand new £5, Amiga Ferguson MC01 RGB monitor lead £5 Tel: 0253 594381.

AMIGA basic inside and out, book new including program disk £15. Tel 0253 594381.

RENDALE 8802 Genlock for Commodore Amiga computer. Brand new, never used abandoned project £200 o.n.o. Ring 0253 594381.

SHARP PC1246 pocket computer calculator. Brand new, never used £30 o.n.o. Tel: 0253 594381.

AMSTRAD PC2086 with printer, external 51 drive and soundboard + software £650 o.n.o. Phone 0272 861355.

TANDY TRS80 16K colour computer, 11 books, manuals, leads, speech sound program pak, 1 game £35 o.n.o. Tel: Andrew More 081 651 2529 evens.

SMITH-CORONA TP11 serial interface daisy wheel printer with manual and spare ribbons, leads etc £25 o.n.o. Tel: Andrew More, 081 651 2529 evens. Buyer collects.

SPECTRUM +3 magnus light gun, 520Z worth of games, five blank disks, multi-face two, two joysticks, mouse and artiel II, magazines and manuals. Total package worth £715, only £225. Write to Paul Morgan, 31 Aeshbury Avenue, Seven Kings, Ilford, Essex, IG3 9ES. Tel: 081 591 2371.

C64c with tape deck, disk drive, midi connections, mouse. P.S.U., lots of software, all in very good condition. All boxed. Need quick sale! Only £300 o.n.o. Tel: Southampton 0703 557366.

COMMODORE 64 computer, disk-drive, printer plus over 100 games on tape and disk including many accessories £395 o.n.o. Tel: 0943 609088.

520STFM, SM124 mono monitor, two good joysticks, games and serious software including Neo desk V.3.01, lots of PD, 14 mag including disks and some cables £250 o.n.o. Please phone 081 883

3812.Euromax Racemaker joystick boxed as new. £20. Ring (0349) 882909 in the evenings.

CHEAPEST IBM compatible computer on the market! Olivetti PC1, colour monitor, two 720K disc drives, excellent condition, boxed, bargain £350. Ideal Christmas present, contact David on (091) 4384684.

FOR SALE Amstrad PCW8512 with locoscript II and locospell, books, ribbons, magazines and binder, games, disk box, dust covers, anti-glare screen. £350. Phone 081 542 8861 after 6pm. Ask for Greg.

SPECTRUM +3 computer plus multiface and light gun £150 o.n.o. Also literally hundreds of mags games tapes etc. All perfect and cheap, will split. Write to: Stephen Owen, 31 Llys Road, Oswestry, Shropshire SY11 2XD. Tel: (0691) 657766.

TWO Amstrad CPC 6128's (disc drive and CPC 464 +Ape drive) over 100 original games on disc and tape, two television modulators multiface 2, two joysticks, disk storage dust covers excellent condition, only £400 o.n.o. Ring Danny 071 262 9192 (after 6 till 9).

VECTREX video game system with ten games. Has built in monitor, joystick and superb game play. £55. Tel: 0438 840456 anymore. (Herts).

C64 disk drive, 1541B, fully reconditioned # month warranty, sell for £70. Ring Cov 0203 366147

AMSTRAD CPC464 plus monitor VGC. With over 500 software inc. Lightgun. Bargain at £225. Tel: 021 772 5327.

BBC B with Music 500 Synthesiser, manuals and many games £150 o.n.o. Tel York (0904) 632105.

YAMAHA DSR1000 full size keyboard. Spilt or normal. Full Midi, 100 voices, 32 rhythms, 18 drums, Rampack. As new £300 o.n.o. Tel: 0744 27067.

FOR SALE IBM games, all in original boxes with manuals etc. For a list send a S.A.E. to Mark, 154 Roman Road, Basingstoke, Hants RG23 8HG.

SPECTRUM 48K budget and some full price games for sale, mostly old. Send a S.A.E. and £1 up for a list, also Sam Coupe. Contacts wanted, any sex, any age. Please write to: Kevin Cooper, 157 Newton Road, Carlisle, Cumbria, CA7 7LL.

MICRO soft word processor and spelling checker (costs £20). Word processor and spell checker together worth £170 only £70 o.n.o. Extensive features for Atari ST. Tel: 081 391 2190.

ATARI 520STFM, basic, word processor, CP/M emulator, games and other software, mouse and mat. Five month guarantee left, excellent condition, boxed, bargain £250, ideal Christmas present, contact David (091) 4384684.

ST games Falcon, Sleeping Gods, Xenomorph, Gadragnon Domain, Heroes Of The Lance. All as new. Any offers? Ring Chris, Bath (0225) 337403, evenings.

QLS X # 512K Expando RAM Tandata
modem, 40+ MDV's, books, mags
etc. Thomson RGB/TTL, composite
colour monitor, all leads parallel
printer lead. £300.00 the lot.
Delivery negotiable Tel: Ray 02357
65360.

SPECTRUM +3, data cassette
recorder and joystick plus selection of
cassette and disk software. Excellent
condition. £120. Tel: 0495 214825
(after 2pm).

AMIGA 500 with 1084s monitor with
softwares and disks worth over £100.
Megadrive with strider. Includes
diskcase, dust cover, monitor filter.
Both plugged on same monitor.
Bargain £600. Call Rashid on 081
677 8458.

NEC 286 Mother board plus power
supply, two floppies £100. Vectrex
new tube five carts £100. Swap for
Amiga Bits. Contact Graeme 0908
661137.

AMIGA A500 3 Meg, A590, CM8833,
Star LC2410 software. (PPage
Protod Advantage PD etc) £1000
o.n.o. no split. Tel Paul 081 864
1259.

SPECTRUM plus three light gun,
over fifty games, books, manuals and
many extras including another 48K
microdrive cassettes. Telephone:
0525 405534 Bedford. Price £150.

YAMAHA SY22 Vector synthesizer,
only six weeks old, costs £800
bargain £255. Cyber studio plus
future and human design disks, costs
£80 - accept £45. Tel: 081 841
4388.

WANTED FOR CASH

Amstrad PC's, PCW's, Amigas, Atari ST's. Printers,
Lasers, ANY QUANTITY CONSIDERED, working or not.
DMR ELECTRONICS: 0274 817889

TRUST P.D.

Quality Public Domain for the ST

Demo's
Games
Art
Music
Word Pro
STE. Demo's

Utilities
Educational
Clip Art
Programming
Slide Shows
Disk Mags

Plus over 80 Budgie U.K. games etc.

For free catalogue on disk send a S.A.E. and blank
disk or £1.00 cheque/PO to: TRUST P.D., 18 The Park,
Southwram, Halifax, HX3 9QY. Tel: 0422 341606.

WIZARD PD

Christmas catalogue out now! Atari ST only - over
700 discs listed. Send SAE for details

178 Wavely Road, Reading, Berks, RG3 2PZ

Tel: (0734) 574685

AMIGA A500, one megabyte, 2nd
disk drive, Philips colour monitor, with
plinth, joysticks, mouse and mat,
games and software excellent
condition £500. Tel: Bedford (0234)
855174.

ATARI 520 S+ for sale, internal drive
upgraded to 1 meg. £240 o.n.o.
Ring 0373 812919 after 3pm, week
days. Ask for Dwayne. Not under
guarantee.

EPSON PC 640K 20mb, hard disk,
monochrome monitor, 5" floppy II
months old, little used boxed £575
Tel: 0903 831600 after 6pm.

ATARI software, STWorld Hyperprint,
STBase, all originals plus docs. All
eight programs for £40. Tel: 081 841
4389.

STEINBERG time lock for use with
twenty four, can be upgraded to
Cubase. Brand new cost £325,
bargain at £100. Tel 081 841 4388,
Hayes.

CITIZEN HQP-45, 24-pin, 132-col.
Epson compatible printer.
Immaculate condition, gives very high
quality output (complete with spare
ribbons) £225. Call Ian (Guildford)
0483 271705

NEC 286 motherboard plus
powersupply £100 Vectrex, new tube
five carts £100. Swap for amiga bits.
Tel: 0908 661137.

C64 +2 recorders + disk. Drive light
gun! 100s original disks + tapes £225.
Tel: 0733 325550.

HIGH QUALITY SOFTWARE

Learn how to write it,
Get a Recognised Qualification and get a good job.

One 'A' Level, good GCSE's or equivalent, or just maturity
and motivation could qualify you to study for a BTEC

Higher National Diploma

in

Software Engineering

* LEA grants and sponsorship with extra money
and guaranteed job offers available

Contact:- WATFORD COLLEGE
Hempstead Road, Watford, Herts WD1 3EZ
Tel (0923) 576132 (24hrs)
Course starts 1st October

DISK Drives 5" Shugart 405 (S.G.)
£15. 8" Shugart 800-2 B20. Plus
P&P. Tel 0232 642687

ARCHIMEDES A3000, learning
curve, games, mono monitor, 8
months old, reason for sale, £600
o.n.o. Tel 0298 816002.

AMSTRAD PCW 8252 512K Ram.
Money manager, Micro spread.
Database, D.T.P. Interface mouse,
dust covers, label printer, micro word
WP, disc box, over 20 discs, etc etc
£295. Write Mr A R Watson, 33
Elizabeth House, Alcant Road,
Brentwood, Essex, CM15 8PL. Tel:
0277 227333.

ZX81 soft, organic memory, unit 8
interfaces, clock, robot control,
teekit, 54K Eprom. Printer £100. Tel
0432 341500.

SPECTRUM 48K+, mouse, printer
interface, spectrum joystick,
software, £100.00 RAM music
machine, £25.00, interface one,
£15.00, microdrive units, £15.00, 20
microdrive carts, £25.00, pro
keyboard, graphics tablet, £95.00.
Tel 0432 341500.

BBCB + tape recorder + lots of
software - joystick £115 or £125 if
delivery required. Phone (0473)
715438 or contact Simon, Flat 2,
Vauxhall Court, Aston University,
Birmingham B4 7ET after 31st
December.

AMSTRAD PC 1512 colour monitor
mouse dual ODWP spreadsheet etc,
hardly used £450 o.n.o. Oxford area
0491 35778.

C64 cassette originals 100s of titles.
Large SAE for lists to Michael
Vainola, 5 Woodside Cottages,
Highwood, Chelmsford, Essex CM1
3RD. Hi to Steve Parker of
Chelmsford.

AMIGA 2000B, 2x3½" 1x5½", colour
monitor boot switch, 1 meg, 1000+
software, originals including Amos, 2
joysticks, 8 books, leads, mags,
£1700.00. Ring Richard on 0925
35958. (Buyer collects).

PC Engine (PAL) 8 games, joypads
inc slow mo, multimap, mags, cost
over £300. Only £250 (boxed). Tel:
Lee (0778) 347616 after 6.00 pm
ideal Xmas gift.

SANYO double conversion receiver
nine bands ATU, BFO ETC Great
Dixing. Plus 2 metre converter and
antel swap BBCB computer, 20 Orci
48K some work some don't. Offers.
tel 0422 244365.

AMIGA A500, one megabyte,
CM8833 stereo colour monitor.
Cumann external drive, Casio CT07
keyboard, midi interface, two
joysticks, 120 disks, work 100%
solo. Tel for £890 o.n.o.
0202 72437.

AMSTRAD 1512 PC MMSD +31/2
internal 640K Excellent condition
£300 o.n.o. Tel Mike 0782 415310.
Some software available.

AMIGA games, Shadow Warriors £9,
Korbes Drift £9, Interphase £8,
Conflict Europe £6. Tel John (0280)
812307.

Access **S MG SUPPLIES S** VISA
For all your computer needs

SEGA MEGA DRIVES
ONLY £180
ALL PRICES HAVE NO HIDDEN EXTRAS

DISKS FROM 36p
SEGA MEGA DRIVES ONLY £180
ATARI ST'S FROM £289
STE SIMM'S FROM £30
STEM UPDATES FROM £35

MANY ITEMS NOT LISTED PLEASE PHONE

BBC/Electron games, 50 titles available at stupid prices e.g. Icarus £3, Aviator 50p, Tel John (0280) 812307.

COMMODORE 64 mouse (Geos) with art tape and mat. Also freeze frame cartridge and disk notcher. 64 disc games Turbo Outrun and Ghouls 'N' Ghosts, £35 the lot. Tel: (099269) 2821.

ATARI ST software Timeworks £40, Fairprint £15, Superbase Personal £15. All originals complete with manuals. Prices include postage. Telephone (0702) 219147.

PCW 8256 + Pac-Away 8000 + Loco 1 + Loco 2 + mini office prof + various PD 1.e, Database, Spread Sheet, Desk Organiser, Diskcover, Pristine condition. Phone 0604 494859, after 6pm.

MEGADRIVE games for sale including Tatsujiin, Golf, Ghouls + Ghouls and Scarl Monaco G.P. Excellent condition £20, £25 each. 0268 691558.

IBM Clone XT 10MHz, 20MbHD, 720KSD, Hercules Mono monitor, also with a star LC10 Colour Printer only 550 offers, 0925 62382.

AMIGA games, LeisureSuit Larry 3 £18, Conquests of Camelot £20, Space Quest 3 £10, Kings Quest 3 £7, Joan of Arc £5. Others. Tel 0908 563318 after 6pm. Ask for Tarquin.

IMAGE Fight Arcade machine. Complete. £450. Tel: 0254 56029.

WYSE 12" amber screen monitor £25. Tel 0254 56029.

MEGADRIVE games: Eswat, Thunder Force 3, Super Hang On, Super Shinobi, Golden Axe, Phone Darren on 0322 863656.

COMMODORE 64 with data recorder, lightgun, monitor, joystick, games, software, books etc. VGC. Tel: 0932 243525.

COMPUTER monitor, printer, software and manuals only £350. IBM compatible. Call 081 908 2225 after 7pm.

SOFTWARE for sale for Amiga BBC emulator £20, Pioneer Plague £5, It's Only Rock + Roll datadisk £5. Tel: 0403 77545.

AMIGA hardware and software for sale 3.5" drive £50, Digiview 4 £80, Master Sound £20, Midi interface £10. Tel: 0403 77545.

PANASONIC KXP1080 printer with Atan cable £75ono. Tel: 0244 542099 after 6pm.

LYNX for sale. Six games, VGC only £180. Introcard (Amiga) £30. Tel: Ross on 0462 731665.

PSION L264 organiser. Boxed as new £110. Travel Pack £20. Finance Pack £20. Harvester Superchip £40. Tel: 0305 0247 (evenings).

A500, A501, A590 3 meg. total command centre, second drive, colour monitor £800. Philips CM8533 monitor £110. Both ono. Tel: 0332 381429 after 5pm.

CPC6128 - Modulator, mouse, discs, joystick, tapes, mags £200 ono. Phone 0738 86480. Buyer collects (Tayside).

FOR CPC454 - Amor word processor / Spill check / Promerg / Utopia on Romboard £60. Tel: 021 525 1982.

AMIGA original software: Loom, Mean Streets, Wonderland etc. All £10. Phone 081 675 6419 (even or weekdays).

QL hardware and software for sale. SAE to Mr T. Ramsey, Kandy, Wycombe Road, Stokenchurch, Bucks, HP14 3RR.

NICE magazines for sale. SAE for info. Mr T. Ramsey, Kandy, Wycombe Road, Stokenchurch, Bucks, HP14 3RR.

MODEM interface for ZX Spectrum £17. Write to Mr. T. Ramsey, Kandy, Wycombe Road, Bucks, HP14 3RR.

SPECTRUM +2, joystick, Kempston interface, lots of games, mags etc., with 14" colour TV £250 ono. Tel: (Bridgford) 0274 723409.

Modems! Modems! Modems!

Modems for Amigas, Ataris & PCs

Technical advice a pleasure
V22bis (2400 baud) Hayes compatibles from £99

Supply Solutions offer top quality, guaranteed new and second-hand modems from major manufacturers at realistic prices.
All modems are fully tested prior to despatch.

Ring 081-566-3639 Supply Solutions

Supply Solutions 187 Uxbridge Road, London, W3 7PL
Open 9am to 5pm and 8pm Monday to Friday
STRICTLY MAIL ORDER ONLY

ATARI ST magazines for sale all £1. ST Format, ST User, ST Action etc interested? Then ring James after six pm on 081 30628.

PRINTER Seikosha GP100A spare ribbon, printer cable, tractor feed, parallel port. Excellent working order, £45. Tel: 0296 613952 (Aylesbury, Bucks).

MEGA drive for sale (PAL) with 2 joypads, 5 games: Moonwalker, Soccer, Cyberball, Golden Ace, Super Shinobi. 4 months old, boxed, new. Worth £200 accept £240ono. Tel: 0253 43561.

ATARI ST original software from £5. 40 Mag MFM disk drive £110. At ■ serial/parallel port interface £25. Okimate 20 colour printer £50. Phone (0270) 665077.

SPECTRUM +2A, 12 months old, still boxed, including joystick and interface, loads of mags plus over £100 worth of the latest software, V.G.C. £150, no offers. Tel: 0965 22017.

STFM originals for sale! Seuck, Outrun, Vixen, Thunder Cats, £8 to £10, Spy v Spy £5. Write to: M Tillett 30 Prospect Road, Burton Bradstock, Dorset, DT2 3PT. Tel: (0502) 519323.

OKIMATE 20, 24 pin colour printer. New printhead just fitted. Parallel interface £90. Price includes P&P and 5 ribbons. Contact Craig Rodgers, The College, Lampeter, Dyfed, SA48 7ED.

AMSTRAD CPC454 with green monitor, joystick, lightpen, over 30 games £160 o.n.o. Tel: York 400197. Buyer must collect.

ST fast basic Rom £30, Devpac ST £25 40, games £50, Hyperpaint-Hyperdraw £15 270, books £30, Metacomo STBasic £10. S.E.O to Mr Howes, 60 Kingsdale Road, Plumstead SE18 2DF. Tel: 081 316 4360.

ATARI 130XE + data recorder and joystick + quality software, boxed, excellent condition, bargain at £85. Tel 0208 483790.

PRESTEL software for CBM64/128. 2000 modern and software £45. Prism 1000 modem £15. Tel: Neville on 071 244 6440 (working hours).

FOR sale: Accelerator IIe card for Apple 2e computer. Price £75. Contact: S. Nicholls, 20 Linburn Road, Longton, S-O-T, Staffs, ST3 5RW.

SAM Coupe, disk drives, latest Rom + Dos, Defend game + demo disks, leads etc. Worth £320. Will sell for £215ono. Call them on 0925 821372 5pm - 10pm.

SPECTRUM +3, multiface 3 and disk/paste software for sale. £180ono (software included to the value of £200). Phone Leeds 0532 679716.

STOS Maestro plus only £35. Hardly used. Phone Peter on 031 4417952. + 3 printer leads £5. + 2 Atari ST II £8. Tel: 031 441 7952.

LYNX, California Games, ElectroCop, Blue Lighting. Cost £220, sell for £130. Power supply included. Call Tarquin on 0998 583318 after 6pm.

COMPUTER REPAIRS

* FREE ESTIMATES * 12 MONTHS WARRANTY *

Amstrad, Atari, Commodore, Monitors & Printers, Amiga & ST Specialists

Fixed labour charge + parts + carriage

* STFM POWER SUPPLY REPAIRED £35 ALL INC. *

COMPUTER SPARES

Parts & Service Manuals for Acorn, Amstrad, Atari, Commodore, Sinclair & most makes of Monitors & Printers

All services ■ goods supplied subject to our terms of trade

GJS COMPUTER SERVICES

37 Bamford Street, Clayton, Manchester, M11 4EE

Callers by appointment only

Tel: 061 231 6608 Fax: 061 233 7531

FOR sale. Monitor stand £10, ST to Scart £7, ST to Amiga monitor lead £7. Atari FSII £20 ono. Tel: Bristol 0272 825702

AMSTRAD CPC464 + monitor and TV modulator, joystick, dust covers and loads of software. £200 ono. Ring Ian on 0234 43623 evenings.

IBM compatible games, blaster sound card with software, speech intelligent organ. £90 ono. Tel: 0452 79647.

REPLAY 4, latest version, as new. £30. Supercharged Easy Draw 2, BBS 2, Spectrum 512. Offers? Tel: Mark on 0494 83364.

LYNX, California Games, ElectroCop, Blue Lighting. Cost £220, sell for £130. Power supply included. Call Tarquin on 0998 583318 after 6pm.

AMIGA mouse £10, Amiga modulator £10. 3.5" disk boxes £5 each. Tel: 0909 482844.

PRINTER paper, 2000 sheets narrow £5, 2000 sheets wide £8. Buyer collects 0703 678949 after 6pm.

GENIUS mouse + interface for Amstrad CPC. As new. Only £20 including postage. Tel: 0983 872616 (I.O.W.).

AMSTRAD CPC464 colour monitor. Lots of games and mags, manuals, joystick. Worth £600 - will sell £300. Tel: Greg on 081 208 1887 (evening).

PROTEXT V.5 word processor for Atari ST. New. - unboxed gift - £95. Tel: 0227 768056.

SAGE PAYROLL II. Original package. Bundled with manuals £80. Will sell £30. Tel: 0272 664831 (office hours).

FOR ALL YOUR PC, ST & AMIGA NEEDS
Ring for best quotes
Telephone Testboon on 0695 571605
or 0695 579106

ST software: Falcon, Rainbow 'lands, Xenon 2, Bards Tale, Borodino £7 each, £25 the lot. Tel: (Harlow) 450361.

ATARI 520STE, software, mags, 4 months guaranteed left, £285 or swap Amiga. Phone (Coventry) 503922.

ORIGINAL Amiga software for sale. Send SASE for big list to: K.S. Rogers, 57 Fircroft Cl, Tilehurst, Reading.

COMMODORE 128 computer plus datasette, joystick, books, magazines, £600+ of original software. All boxed with instructions. £220 o.n.o. Tel: 021-445 1082, ask for Craig.

VGA compatible entertainment shareware, full 3.5" menu driven disk either 1 x 1.44m or 2 x 720K £6 inclusive or SAE for info. W.D. Owen, 9 Ithaca Way, Sonley Road, Wrexham, Clwyd.

AMIGA games: Dungeon Master, Super Hang-On, Ballistic, Pioneer Plague and Stag, plus more than 40 mags. £30. 081-894 3982.

SPECTRUM - budget & full price, 50p to £3. New titles, SAE please: D. Wood, 42 St. Hugh's Avenue, Cleethorpes, Humberside. All mint!

SPECTRUM +2, interface I, Microdrive + cartridges, lightgun + interface, carrierbag of games - £195. 041-959 2506.

C.G.A. colour monitor (Thomson) for IBM compatibles, includes green & amber screen switching, in excellent condition, just £99 o.n.o. Contact: C. Pickering, 19 Clough Road, Birkby, Huddersfield, W. Yorks, HD2 2NZ.

FOR sale Spectrum 128+ and b/w TV, over 50 games, joystick + interface and tape player, all for only £100 o.n.o.

VIDI-ST digitiser £80, system 3 £20, both compatible with ST's and in excellent condition. Tel: (0642) 584304.

MODEM, Pace Linnet, lead & PSU £55, Rockwell Aim 65 with all manuals etc. £50. Tel Chris (0272) 781178.

COMMODORE C128, 1570DD, datacass, joystick, parallel lead, £1000+ of log software, all boxed, £250. (0934) 513086.

AMSTRAD 464, mono monitor, TV modulator, disk drive, over £1000 of games, extras, basics £250. Tel: (0480) 61253.

AMIGA software for sale. All originals, send SAE for details: Mr. D. Powell, 24 Wimstone Street, Leominster, Herefordshire, HR6 8PJ.

ATARI 130XE+ data recorder + joystick + quality software, boxed, excellent condition, bargain £85. Tel: (0202) 833790.

PACE Linnet v21, v23 modem for sale with ST leads and Computer software (original) £65. Phone (0989) 658118.

PLUS 3 disc drive only £50. With discs, its electron. Also Plus one for £10. Electron only £30 with many games. Write to: P. Cardall, 3 Moorend Ave, C'Wood, Birmingham, B37 5SD.

ATARI 520STFM plus 2.5Mb ram and PC Speed plus 2nd external drive. Discovery Pack, Microsoft Word® F29, Elite + loads of PD software £500ono. Phone after 7pm 081 648 8143.

CPC512B colour monitor, DMP2000 printer, multiface 2, mouse, tape disk with leads. Protext, Stop Press, compiler, over 50 games, 80 magazines, worth £1000+, Sensible offers to: 061 941 2862.

MUSIC-X Junior, original, boxed with manual and registration card. Could send C.O.D., £39. Tel: Chris (0252) 373177.

ADS - AMIGA PD LIBRARY
Tel no. (0903) 210279

PD discs all at only 99p
 Please send £1 or blank disc
 & SAE for free catalogue & demo to:
7 Park Crescent, Worthing, W. Sussex

Please make cheques & P.O. payable to: **ADS**

MEGA ST 4meg RAM hi-res mon £925, 40meg hard disk £325, 1040 ST +hi-res mon £345, 520 ST + twin 1meg drives + RAM (0495) 272092.

10 IBM PC games for sale £7 each or £50 the lot, 3.5" 720K internal drive + 128K. Phone Jan 081-800 9763.

MEGADRIVE and 3 games also Sky satellite system £230 and £310 respectively or swap either for an Amiga. Tel: James, Leeds 790308.

COMMODORE 64 cassette, joystick printer (MPS01). Numerous games bargain £200. Tel: 0732 458181.

VIC-20. Good condition, games & books. Joystick, Ram Pack, £25ono. Also broken BBC. Phone (0508) 70351 after 6pm.

APOLLO 1200, 1600, 2000, 2400, 3200, 4000, 4800, 5600, 7200, 9600, 12800, 16000, 20000, 24000, 32000, 40000, 48000, 56000, 72000, 96000, 128000, 160000, 200000, 240000, 320000, 400000, 480000, 560000, 720000, 960000, 1280000, 1600000, 2000000, 2400000, 3200000, 4000000, 4800000, 5600000, 7200000, 9600000, 12800000, 16000000, 20000000, 24000000, 32000000, 40000000, 48000000, 56000000, 72000000, 96000000, 128000000, 160000000, 200000000, 240000000, 320000000, 400000000, 480000000, 560000000, 720000000, 960000000, 1280000000, 1600000000, 2000000000, 2400000000, 3200000000, 4000000000, 4800000000, 5600000000, 7200000000, 9600000000, 12800000000, 16000000000, 20000000000, 24000000000, 32000000000, 40000000000, 48000000000, 56000000000, 72000000000, 96000000000, 128000000000, 160000000000, 200000000000, 240000000000, 320000000000, 400000000000, 480000000000, 560000000000, 720000000000, 960000000000, 1280000000000, 1600000000000, 2000000000000, 2400000000000, 3200000000000, 4000000000000, 4800000000000, 5600000000000, 7200000000000, 9600000000000, 12800000000000, 16000000000000, 20000000000000, 24000000000000, 32000000000000, 40000000000000, 48000000000000, 56000000000000, 72000000000000, 96000000000000, 128000000000000, 160000000000000, 200000000000000, 240000000000000, 320000000000000, 400000000000000, 480000000000000, 560000000000000, 720000000000000, 960000000000000, 1280000000000000, 1600000000000000, 2000000000000000, 2400000000000000, 3200000000000000, 4000000000000000, 4800000000000000, 5600000000000000, 7200000000000000, 9600000000000000, 12800000000000000, 16000000000000000, 20000000000000000, 24000000000000000, 32000000000000000, 40000000000000000, 48000000000000000, 56000000000000000, 72000000000000000, 96000000000000000, 128000000000000000, 160000000000000000, 200000000000000000, 240000000000000000, 320000000000000000, 400000000000000000, 480000000000000000, 560000000000000000, 720000000000000000, 960000000000000000, 1280000000000000000, 1600000000000000000, 2000000000000000000, 2400000000000000000, 3200000000000000000, 4000000000000000000, 4800000000000000000, 5600000000000000000, 7200000000000000000, 9600000000000000000, 12800000000000000000, 16000000000000000000, 20000000000000000000, 24000000000000000000, 32000000000000000000, 40000000000000000000, 48000000000000000000, 56000000000000000000, 72000000000000000000, 96000000000000000000, 128000000000000000000, 160000000000000000000, 200000000000000000000, 240000000000000000000, 320000000000000000000, 400000000000000000000, 480000000000000000000, 560000000000000000000, 720000000000000000000, 960000000000000000000, 1280000000000000000000, 1600000000000000000000, 2000000000000000000000, 2400000000000000000000, 3200000000000000000000, 4000000000000000000000, 4800000000000000000000, 5600000000000000000000, 7200000000000000000000, 9600000000000000000000, 12800000000000000000000, 16000000000000000000000, 20000000000000000000000, 24000000000000000000000, 32000000000000000000000, 40000000000000000000000, 48000000000000000000000, 56000000000000000000000, 72000000000000000000000, 96000000000000000000000, 128000000000000000000000, 160000000000000000000000, 200000000000000000000000, 240000000000000000000000, 320000000000000000000000, 400000000000000000000000, 480000000000000000000000, 560000000000000000000000, 720000000000000000000000, 960000000000000000000000, 1280000000000000000000000, 1600000000000000000000000, 2000000000000000000000000, 2400000000000000000000000, 3200000000000000000000000, 4000000000000000000000000, 4800000000000000000000000, 5600000000000000000000000, 7200000000000000000000000, 9600000000000000000000000, 12800000000000000000000000, 16000000000000000000000000, 20000000000000000000000000, 24000000000000000000000000, 32000000000000000000000000, 40000000000000000000000000, 48000000000000000000000000, 56000000000000000000000000, 72000000000000000000000000, 96000000000000000000000000, 128000000000000000000000000, 160000000000000000000000000, 200000000000000000000000000, 240000000000000000000000000, 320000000000000000000000000, 400000000000000000000000000, 480000000000000000000000000, 560000000000000000000000000, 720000000000000000000000000, 960000000000000000000000000, 1280000000000000000000000000, 1600000000000000000000000000, 2000000000000000000000000000, 2400000000000000000000000000, 3200000000000000000000000000, 4000000000000000000000000000, 4800000000000000000000000000, 5600000000000000000000000000, 7200000000000000000000000000, 9600000000000000000000000000, 12800000000000000000000000000, 16000000000000000000000000000, 20000000000000000000000000000, 24000000000000000000000000000, 32000000000000000000000000000, 40000000000000000000000000000, 48000000000000000000000000000, 56000000000000000000000000000, 72000000000000000000000000000, 96000000000000000000000000000, 128000000000000000000000000000, 160000000000000000000000000000, 200000000000000000000000000000, 240000000000000000000000000000, 320000000000000000000000000000, 400000000000000000000000000000, 480000000000000000000000000000, 560000000000000000000000000000, 720000000000000000000000000000, 960000000000000000000000000000, 1280000000000000000000000000000, 1600000000000000000000000000000, 2000000000000000000000000000000, 2400000000000000000000000000000, 3200000000000000000000000000000, 4000000000000000000000000000000, 4800000000000000000000000000000, 5600000000000000000000000000000, 7200000000000000000000000000000, 9600000000000000000000000000000, 12800000000000000000000000000000, 16000000000000000000000000000000, 20000000000000000000000000000000, 24000000000000000000000000000000, 32000000000000000000000000000000, 40000000000000000000000000000000, 48000000000000000000000000000000, 56000000000000000000000000000000, 72000000000000000000000000000000, 96000000000000000000000000000000, 128000000000000000000000000000000, 160000000000000000000000000000000, 200000000000000000000000000000000, 240000000000000000000000000000000, 320000000000000000000000000000000, 400000000000000000000000000000000, 480000000000000000000000000000000, 560000000000000000000000000000000, 720000000000000000000000000000000, 960000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 7200000000000000000000000000000000, 9600000000000000000000000000000000, 1280000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2400000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 4800000000000000000000000000000000, 5600000000000000000000000000000000, 72000000000000

AMSTRAD CPC6128 with colour monitor, games and joystick for £200. Tel 0562 492069

CPC Magazines for sale: AA, ACU, CWA from 1986 to 1989. S.a.e. to Z Harun, 25 Brunswick Street, Sheffield, S1 2FJ

NINTENDO Gameboy plus light attachment and six cartridges £150. 0384 71921

PC Engine with 32 cartridges including football soccer. Hardly used. V. good condition. 0384 71921. £180

STI Software, STOS £11, Bloodywych 28, Empire Strikes Back 22. Phone 0898 655818. Also 130XE + Dr/recordry £50

ATARI PD for sale or swap write Den New World PD, 51 Heritage Drive, Gillingham, Kent, ME7 3EQ. PD PD PD PD

LASER printer Canon LBP8A1 £600 ono. Including spare toner cartridge. Tel 081 505 6940

PC Engine, Scart, 5 player adaptor, joystick, turbo stick, 5 games including Final Balster, Dow Dow Dow, Superstar Soldier, etc. £200.00. Phone steve on 0271 818 489

ATARI Portfolio pocket PC. Immaculate and parallel peripheral, software, lead to link to computer, 64K card, mains adaptor, case £295

'The key to a Happy Christmas'

Roland

CM32LA, CM32PCM,
CM64, PC200, CN20,
CP40, CF10.

Now all in stock.
Ready to fill
your
Xmas
stocking.

FOR
YOUR MUSICAL
MIDI REQUIREMENTS.

Try the Yamaha PSS590
keyboard at only
£149.99

The Incredible EVSI Expander at
only £299.99

For all your home computer software.
If it's not in stock we will get it!

TRY US FIRST!



BUT IF YOU WANT

Good prices, good service and a good product range covering all leading Midi/Music packages, education, art and graphics packages plus business packages please contact us.

FOOD FOR THOUGHT

DON'T THINK CHEAPEST IS ALWAYS BEST

DON'T BUY GREY IMPORTS

DO REMEMBER THAT AFTER-SALES SERVICE IS WORTH IT'S WEIGHT IN GOLD

REPAIRS: NO PROBLEM

WE HAVE OUR OWN SERVICE DEPARTMENT

Mon-Thurs 11am-8pm Fri-Sat 11am-7pm

SGM Electronics, 19 Charles Street, Wigan, Lancs WN1 2BP
TEL: (0942) 321435 FAX: (0942) 821273

IF YOU WANT NAKED LADIES CUT THROAT PRICES COWBOYS TRY ELSEWHERE,

SPECTRUM plus with joysticks, Ram

Turbo interface, Slomo, huge collection of original software, over 200 titles. Best offer secures the price. £200-£250. Phone 0923 228728.

BORLAND Quattro pro ver.2 New unregistered, uninsured gift. Cost £395. Bargain at £175. Write to John Bishop, 72 Rectory Road, London, N16 7SH. 5% discs.

DRAGONFLIGHT for Atari ST. Complex RPG/adventure. Cost £30, yours for £12. It is an original, and complete with manual etc. Phone Steve on 0535 273810, evenings only.

AMIGA PD, send disk + SAE for disk list, or SAE for list to: R+G PD, 23 Melmount Gdns, Strabane, Co. Tyrone, N.I., BT82 9EB.

GAMES Blaster, IBM compatible sound card with software as new. £75 ono. Glos Tel: 0452 79647.

ATARI 520STFM, excellent condition, £400 of top software £230 ono. Or swap for Megadrive. Tel: Halifax 346350.

SPECTRUM +3 manual for sale. Mint condition £5 inc. P&P. Contact Paul on 0495 212596 after 6pm.

FRACTALS disk 800K of animations, demos, patterns, 3D State mode, 20 or 21 for Archimedes £7. Contact: Millenium, Box 11, Ammanford, Dyfed, SA18 3WB.

ATARI 520STFM, Timewarps, First Word +, Cobol, Basic, Modula2, STOS, Degas, Games. Great bargain £300 ono. Tel 0484 542 116

AMIGA software: Super Base Professional V3 £95, Hisoft Basic v1.0 £30. Phone 0492 534831.

COMMODORE 64 computer plus over 150 original games. As new. Telephone 0226 752724 after 6pm (South Yorkshire)

AMSTRAD CPC464 plus green screen monitor, software and joystick. £100 ono. Phone 071 586 2146.

AMSTRAD portable PPC640D, twin 3.5, modem, comms, software. Dos 3.3, green monitor extra. £420 ono. Phone 0382 21971 (6-8). Ask for Jim

SPECTRUM 128K computer with cassette recorder, joystick over 200 games plus manual. £120 ono.

AMSTRAD PC2086, 3.5" disk drive, 32 Meg hard disk, mono monitor £550 inc. 0375 674 754

SIEMENS 20Meg Upgradable 885 programmer and PLC for process control and automation £1800. Tel: Judders 093 5 862 433

Amax 11 inc. ROMS £120, Apple 600K disk drive £95 phone 066 125 370

DUAL 3.5 + 5.25 inch disk drives for sale £140. Suit ST. Also BBC B

**THE INTERNATIONAL
Public Domain & Shareware Guide**
The NEW catalogue from GOODMANS
For the Atari ST range
60 pages packed with reviews, articles
and details of all the best in
PD & Shareware

For you - copy send £1.95 to: Goodman Enterprises
16 Conradi Close, Meir Hay Estate, Longton
Stoke-on-Trent, ST3 1SW

Telephone 0782 335650 Fax 0782 316132

BBC B APTL expansion disk drive
printer Pascal GXR games. The lot
£200. Will split. Tel 0256 472 464

520 STFM 12 months old. Over £300 worth software. Sell £250 ono or swap Amiga Hard drive, software or good colour printer. Anything considered. 0942 605 211

ATARI 1520ST 12 months old. With over £300 of software inc. F16, Warbird, Bomber etc. Sell £275 ono or swap for colour printer. Leigh 0942 605 211

ATARI 1520ST 12 months old. Over £300 worth software. Sell £250 ono or swap colour printer, Amiga software, hard drive, anything. Leigh 0942 605 211

ATARI 513354 single sided 3.5" disk drive £45 ono. Buyer collects. Tel: Andrew More 081 651 2529 evens.

AMSTRAD CPC64 excellent condition. Over £600 of software including Phaserang. Sell for £250 ono. Tel: 021 772 6327

FREE £500 worth of software when buying this 1 megabyte Amiga A150, joystick. Price £500. Tel: 0909 474047.

AMIGA A500, just 5 weeks old £280. Also Comm, 1084 col. monitor with lead £150 or both for £400. Tel: Leic (0533) 708777.

BBC B. Has many games, a tape deck and video digitiser (£100). Also 5.25" disk drive (needs repair) £40. Tel: 021 308 7538.

SEGA Master system, 7 games including: Wonder Boy and Fantasy Zone. Perfect condition, all boxed. Free Konix Speedking joystick. £85 ono. Phone Robert on 0757 286855.

TREASURE ISLAND

1 2 3 4 5 6 7 8 9 10

A B C D E F G H I J

USE YOUR VOICE TO LOCATE THE TREASURE

CASH PRIZES

0898 313 586

Infodial PO Box 36 LS1 4TN Call Charges 33P Per min Cheap Rate 44P all other times

CHANTRY COMPUTERS

**Guaranteed Best Prices
We are dealers in the following:-**

| | |
|-----------|-----------|
| Amstrad | Panasonic |
| Commodore | Philips |
| Atari | Cambridge |
| Sharp | Psion |
| Sega | Nintendo |

We also deal in telephones, fax machines and all software.

Phone Mick: 0924-897533 (9am - 7pm)

SPECTRUM + 3, disks + tape deck, £350 of software + more. Amstrad CPC6126 colour monitor + loads of software. Tel: 081 549 0983. £200 onto each.

AMSTRAD 1640 SD colour monitor only £450 onto. Tel: 081 423 4797 after 6pm.

AMIGA 2nd drive £40. BBC Watford digitiser £50. Archimedes, SCSI, IF £150. Amiga Ruby Comms £30. Tel Glenn on 567614 (Shepperton, Middx) evenings.

ATARI ST games - various. ■ each (post extra). Tel: Andrew Moore 081 651 2529 even for details.

TIMWORKS DTP for ST £60, Atari SMM804 printer with cables, extra ribbon and First Word + £80. Hakan 081 533 2188

AMIGA 2000 RAM expansion card 2 Megs. Brand new, unused. Still boxed £220 telephone 040 377 545 W. Sussex

STAR LC10 colour printer for sale, includes Amiga lead and paper. Only £150. Call Tony on 0749 88441 daytime.

XT Compatible Atari PC2, 840K. Samsung colour monitor, 2.525" drives, 20 MBHD, games card. VGC £600 no offers. Dave tel 061 303 0405

XT Compatible Atari PC2, 840K. Samsung colour monitor, 2.525" drives, 20 MBHD, games card. VGC £600 no offers. Dave tel 061 303 0405

TOP MUSIC FOR PC VOYETRA: PC MUSICPAK 4
Sequencer Plus Jr. 64 kb/32 Mid/Channel V22 Mid/Interface: 2 in 2 out controls Minic Network FREE sign up. Upgrade path to 4 port MIDI. SMPTE sync.

NEW SPECIAL PACKAGE PRICE
SOUND CARDS,
Roland LAPC-1
SoundBlaster, AdLib Card
IBM MUSIC features

SPECIAL PACKAGE DEALS! RRP CMS!

| ROLAND LAPC-1 CARD | £139.00 | Inc VAT | £139.00 | Inc VAT |
|---|---------|---------|---------|---------|
| ROLAND LAPC-1 CARD + MCBI Mid Interface + Ballistic Software V2 | £557.00 | | £579.00 | |
| ROLAND LAPC-1 CARD + MCBI Mid Interface + Sequencer Plus Jr V4 | £513.00 | | £478.00 | |
| SoundBlaster + CM32L Roland Sound Module | £270.85 | | £248.00 | |
| Voyetra Musicpack 4 + CM32L Roland Sound Module | £479.00 | | £449.00 | |
| Voyetra Musicpack 4 + CM840 Roland Sound Module | £928.00 | | £849.00 | |
| Roland PC202 Controller Keyboard when bought with any of the above... £179.00 | £149.00 | | £149.00 | |

All prices include VAT. Please add £3.00 towards P&P. Please specify 3.5" or 5.25" media. Make cheques and postal orders payable to Computer Music Systems Ltd.

Delivery is by 1st Class Recorded delivery unless otherwise instructed.

VISA: ACCESS: MAIL ORDER 071-482 5224

Computer MUSIC Systems Ltd 5-7 Buck Street, London NW1 8NQ



THE ALL NEW AMIGA ANALOG ZOOMER® YOKE.

Precision analogue self centering yoke with custom potentiometers. Two fire buttons and trims. Includes digital mode with precise switching. Nylon construction, Long cable. Analogue compatible with F19, Flight Simulator 2 and Mig 29 and Light Aircraft Simulator Fulcrum PC. version with throttle available. Ideal Gift for Christmas.

ZOOMER® Foot pedals available soon.

ONLY £57.95

Available From all good dealers

In case of difficulty telephone: (0272) 550900

Fax: (0272) 411052

Virtual Reality Ltd.
Beehive Trading Estate,
Crews Hole Road, St. George,
Bristol BS5 8AY
Telephone 0272 550900

CBM64C, 1541 2 disk drives, 3 months OCD. 2 joysticks, 2 fast load cartridges, over 200 excellent games, £300 onto. Phone 041 339 4719

EPSON FX compatible printer manual Contains all control codes etc. £5. Also MS-DOS user manual. 0269 845 826

SEGA Megadrive PAL takes 32 games. Perfect working order with joystick and power pack. Boxed. No games. £100 including postage. Tel: 0792 584 346

3.5" double sided new double density blank disks 30p each 100 collected. Harrogate 0423 885 648 (N. Yorks)

AMIGA 2 meg memory expansion (A500) 8 months old £175 onto. No lime wasters Tel: Dorian 031 557 8406

MEGADRIVE - used carts for sale or even exchange, nothing more than £24. Used carts also wanted, good prices paid Tel 0223 350422 ask for Kaizer.

GAMEBOY. Tetris, Tennis, Super Marioland & 80s. Has slight problem but still works fine. Gameboy £10. Phone 0908 583318 after 6pm ask for Tarquin.

SEGA Games. Rastan, Lord of The Sword, £15 each, B25 together. Amiga games, Joan of Arc £4. Phone 0908 583318 after 6pm ask for Tarquin.

MASTER SYSTEM

MEGA DRIVE



GAMES

JOYSTICKS

Compute-it

151 HIGH STREET, TEWKESBURY,
GLOS. TEL TEWKS (0684) 290097

COMPUTER GAMES SPECIALIST

MODEM, Dowty Quattro 300-2400 Baud, MNPS, as new. Cost £700. Sell £300 onto. Gary 071 236 2471 8am - 5pm weekdays

AMSTRAD CPC 454, 4 joysticks, colour monitor + 185 games, lots of mags. Worth £800. Sell for £350 onto. RDG 888 938

ZX Spectrum +3, disks, data recorder, joystick, tons 100 games, phone Sheffield 0742 695905

PC Software Supercalc Reflex DBASE E50. Tel 0484 850 452 Huddersfield

SIEMENS S5-685 20M portable program panel. Also 100U P.L.C. for controlling motors etc. 16 inputs, 16 outputs

CPC6128 mono £50 + disks £165 AMX mouse, new £40. 2nd 3" drive + PSU £40. Amdrum E15 + odds. Tel 0761 431082 after 6pm.

60MB hard drive for Atari ST best offer over £300 secures. Phone 0295 431520.

SAM Coupe with Sam software and Spectrum software for sale £145 onto has new Rom etc. 061 766 4369 after 6pm.

464 PC Realtime clock costs £25 only £10. Also PC compatible CS68010 s/w. Gamecard new only £19.00. Some PC Games & CPC games all new in original £44.99

64C CasDeck boxed 20 joystick, £200 of games, as new £200 onto. Ask for Warren after 6pm. 081 803 4544

AMIGA 2000, 208 BridgeBoard PC XT compatible, £160. Also Amiga games, Lattice C, DPIII, many Amiga books. Also C128 computer plus software £130. C128 modem £25. Darren 081 942 1795.

AMSTRAD 1512PC, twin disk drives, mono monitor, software, dust covers etc. £180 onto. Tel: 081 954 3577 (Midlands)

COMMODORE SX64 computer, internal disk drive and monitor, TV modulator, printer, mouse, joystick, software £25. 3.5" internal disk drive, IBM compat £25. Tel: 021 308 5278 anytime.

AMIGA-ST PC software for sale. Send SAE for lists, state for which machine, to: Thomas, 64 Whitman St, Liverpool, 15.

XEROX 820 II Micro 8MB Fixed disk, floppy and Wordstar, Multilink, Basic and Ascom £100 ex-carriage. Printer fast Daisy 0925 55160.

TOSHIBA T1000SE as new CW Locomscript PC + mouse £750 onto. Diconix 150+ printer, lead £225. tel 0223 247980.

AMIGA A501 mem exp £35. Genuine Jinxter, Barbarian II, Interceptor, £4 each. Drakken E8, all boxed 0703 676949 after 7pm.

AMIGA games for sale, all originals, Start Car Racer £6.00, Omega £8.00, Laser Squad £6.00, F-29 £6.00, Sherman £4.00, Puffys Sage £6.00, many more, please call 081 888 2602 Croydon.

Computallations

COMPUTER CALL-OUT SERVICE

(BIRMINGHAM ONLY)

DESKTOP PUBLISHING

LASER PRINTING

(PROVIDE DTP/WP FILES ON DISK. MOST DTP/WP SUPPORTED)

DISK TRANSFER

(5.25" > 3.5" AND VICE VERSA 1 OFF OR BULK)

PHONE FOR INFORMATION COMPUTALLATIONS

Tel: 021 4585754 (5.30 pm onwards) 0831 501340 (Mobile)

AMIGA software, Midwinter £8, Populus £7, Damocles £7, Hardball II £7, Corporation £7, TV Sport Basketball £7 + post and packing Tel 0277 216112.

DIABLO 630 daisywheel printer, spare wheels, ribbons, tractor feed £200. Tel 0844 5655 evenings.

ATARI 800XL with 1050 disk drive, full instruction booklets, plus twenty games, excellent condition £250. Phone 0730 812330.

AMSTRAD PCW 8256/8512 games for sale, Tetris, Stationfall and Blackstar £11 each or £28 for all three. Phone Carolyn Cook 0443 202429 after 4pm.

ST games for sale, SimCity £7, Midwinter £7, plus loads of arcade originals from £2. Tel 071 267 5540.

WANG 280 PC (IBM AT clone) 80286, 640K, 30Mb, colour EGA screen, serial/par ports. Bargains £700ono 0322 844407.

CPC464 monitor, 200 games, 64K memory expansion, lightpen, loads mags, printer with 400 sheets of papers, cal 081 594 3213.

AMSTRAD 1512 DDMD, mouse, Gem, 2/S £399 tel 0992 561148 (Heftord) Included is a free Millbank system 10.

AMSTRAD CPC6128 with colour monitor, games and joystick for £250 o.n.o. Tel: 0852 492069.

No Hidden Extras!
Kensai 80386/25 PC, VGA Colour, 60Mb HD
Includes: 5.25" Floppy, Colour Monitor, Keyboard, MS-DOS 4.0
1 Parallel and 1 Serial Port, GW Basic
Many other systems/configurations available
Call or write today for details!

£1995
+VAT

Call 081-958-1440 NOW!

Systems ordered before December 25th £200.00 Discount

ATARI ST games software. All originals. For a list send SAE to J Hughes, 2 Pellen Place, Stoke, Plymouth, Devon PL2 1EQ. Send a SAE.

RACAL Redlog (circuit designer software for PCs). Open to any reasonable offers. Write to Jeffrey Hughes, 2 Pellen Place, Stoke, Plymouth, Devon PL2 1EQ. Send a SAE.

MUSIC - X version 1.1 original, boxed with manual and registration card. Could send C.O.D. £59. Tel Chns 0252 373177.

MEGADRIVE used carts for sale eg Rombo 3 £20, Super Shinobi £24, all else no more than £32 used carts also wanted. Ideal new owners ask for Kalizer. Tel 0223 350422.

BBC Model B with new Acorn Data Recorder + many games £120 o.n.o. (Preston) 0772 823796.

BBC Model B with twin floppy drive, Rom reader/loader, joystick, many books, large collection software and Eromps (Pascal, Wordwise, Spy, etc). £200 the lot Tel 0924 264132.

ATARI 85XE, data recorder, joystick and games £70.00 o.n.o. Contact Simon on 0203 661270 Mon-Fri 8pm-9pm Coventry.

ATARI Lynx Portable games console and 5 games (Gauntlet, Zendocon etc). Boxed as new. Worth £290. Sell for £200 o.n.o. Ring Deal 366 934 after 5pm

MIRACLE WS4000 - £75.00 o.n.o. Amiga external disk drive £45.00, Amiga A100 512K £175.00. Tel 0455 556011 evenings.

FOR sale Toshiba T3100e 40Mb laptop plus DBase IV and Wordprocessor £50.00 only 11 months old £2000 o.n.o. Tel 0488 241670.

JVC HR-D830EK Nicam stereo VHS video recorder £395/Casio DA-1 portable Dat player £495/Roland Synth £850/Sharp portable PC Inc 40 meg HD £1200. All on call 0831 491137 anytime.

AMIGA XT Bridgeboard for sale with timer/date chip and expanded ram board £235. Phone Nic 071 229 3600.

SPECTRUM Comcon interface, joystick, games worth £200+, mini speakers, books £55, Amiga games; Singes Castle £15, T.Eclipse £5. Phone Simon (0745) 886306 after 4pm

SPECTRUM 128K +2, I/Face1, M'drive, cartridges, Ramturbo, joystick, Multiface, 300 games, books, £250. Plus-D Interface, drive, 2-face, music machine, monitor, extras, may split. Call 0480 406415.

AMIGA games Shadow Warriors, X-Out, Damocles £10 each. Just ring 0422 369918 and ask for Falsaf.

PC Engine and two games. Brand new still boxed £100. Amstrad PPC512 £250 o.n.o. Ring 081 445 7321 after 7pm and ask for John in flat 6.

COMMODORE CNT6410 modem + Prestel software. Suitable for C64/128 £25. Chester 0244 851066.

TOSHIBA 1600/3100SX Laptop computers for sale. Brand new £1900/£2500. Tel: Glasgow 041 649 0230 or 081 648 0832 c.8.00pm.

FB01 (no manuals) + synth works. £100. Timeworks ST £40, Firstword + 120, Hyperpaint, Draw £5 each. Tel: 0923 36724.

640K OL breaking for spares, PCB, MDV's, twin 3.5" drives, Sandy 512K5QB, Schon PC keyboard, carts, mags, software £270. Phone 0309 75564.

UNOPENED megadrive, joypad, four S/H games inc. Insector X. Year guarantee £220. Tel: 081 592 2117. Ask for Sam. Buyer collects.

ARCHIMEDES A3000 - 2Mb £550. BBC master 128 + 5.25" drive £300. Tel: 081 886 2677.

SWAP my colour Amstrad 1512 monitor for your mono monitor plus £170, 360K Floppy drive £350. Tel: 081 540 0393 evenings.

ATARI STFM mono monitor, BW TV, 50+ discs, PC-Dito + PC Turbo Pascal + Wordscar 4. Lots of PD, few games. £350. Tel: 0302 701920.

APRICOT PC386 (16MHz), 45Mb harddisk, 2Mb RAM, 3.5" 1.44 Floppy, DOS 3.3 & windows 386. Price £1,100. Tel: Karen (0985) 215224 after 6pm.

A & A SUPPLIES

Everything for the Commodore & Atari including Amiga Batman/Flight of Fantasy/Screen Gems Packs & Atari ST Discovery Pack - All at very competitive prices

Tel: (0908) 216312

DRAGON 32 plus many games and 2 joysticks. Still in box £40. Tel 0983 72616 (I.O.W.)

ATARI XL plus 1050 D/Drive and loads of programs. £180 inc p&p. Mr J McNeil, 15 Delinatir Drive, Old Kilpatrick, Sam Strathclyde.

COUPE 256K disc drive, Learn Sam tape, Sony genuine Sam games original Spectrum games as new boxed, manuals etc. Phone Cannock 0543 504007 after 6pm £185.00.

RITEMAN C+ printer for Commodore 64 compatible with Commodore printers with all Commodore graphic characters complete with manual £50 o.n.o. Ring Michael Franks 081 907 7739.

SPECTRUM +3 with multiface 3, mouse, joystick plus £120 worth of games inc. lots on disk with Chase HQ, Adidas & more. £195. Tel: 081 590 2546.

QUALITAS plus CPC disk version 2. New, boxed, unwanted gift £14 inc P&P. Jenkins, Penderyn, Llanidloes Rd, Newtown, Powys. Tel: 0686 624765.

ST/AMIGA Format issued 1-13 including disks £2.50 each inc. P&P. ST Format iss 1-15 no issue 8 £2.50 each inc. P&P. Tel: 041 776 7261 after 6pm.

STAR LC-10 multifont printer, boxed as new only £100. Tel: 041 776 7261 after 6pm.

EPSON printer for sale. LX800, draft NLO. As new. Complete with tractor feed, manual + 64K buffer. All for £180. Tel: 061 633 0824.

ATARI 520 ST 1 Meg memory, twin 1 meg disk drives, mono monitor, Citizen 120D printer. £360. Phone 081 902 4310.

APRICOT with 2 drives + software £95. Lattice C for above or PC £40. Juki 6100 18cps Daisylwheeler printer £75. Phone 0734 750426 evenings.

ST games. F19 £15, Bloodbath £9, Mastersound 15, Player Manager £8, Space Quest 3 £9. Plus others. Call 0442 215102.

AMIGA 1081 colour monitor. Boxed. £125. Tel: 0204 748660
Bournemouth area.

WORD processing system Sinclair QL, Scart colour monitor, Qume Sprint daisy wheel printer, manual, PSU, cables, manuals, software and spare wheels and ribbons £195 ideal for student. Phone 0974 3713.

COMMODORE 128D built in disc drive, colour monitor and MPS801 printer over £300 of software £350 021 743 8697

ZX Spectrum + for sale including new tape recorder, new interface plus software and literature. Will sell for £70. 0405 626 564

With EVERY Amiga A500 SCREEN GEMS + FLIGHT OF FANTASY * OR * BATPACK

R.S.T COMPUTER MEDIA - AMIGA SPECIALIST
MAIL ORDER/HARDWARE/SOFTWARE

0582 872754

SPECIAL CHRISTMAS OFFER

1 MEG AMIGA MEGAPACK £299 inc. VAT plus joystick
10845 MONITOR £240 Inc. VAT & free delivery

Atari Lynx £114.00 + P&P

With EVERY Amiga A500 SCREEN GEMS + FLIGHT OF FANTASY * OR * BATPACK
+ JOYSTICK * 1 MEG OF MEMORY * READY FITTED & TESTED *

* TV MODULATOR * WRENCH * MOUSE *

SCREEN GEMS

- * Shadow of the Beast II
- * Back to the Future II
- * Star Wars
- * Knightbridge
- * Deluxe Paint II

FLIGHT OF FANTASY

- * F29 Retaliator
- * Rainbow Islands
- * Secret Invasion of the Planet of the Robot Monsters

BAT PACK

- * Deluxe Pack II
- * Batman Returns
- * F-15 Interceptor
- * New Zealand Story
- * Deluxe Paint II

DISK DRIVES CUMANA 3.5 £69.00 + P&P

20 MEG Amiga A590 Hard drive £275 + P/P

**RING NOW 0582 872754 OR WRITE R.S.T COMPUTER MEDIA,
57 RIDGEWAY, KENSWORTH, BEDS LU9 3RL**

ATARI 520 STFM Discovery Pack, 2 months old, as new, and extra games. F29 and Kick Off. Tel: 0784 432 913 165

BBC B Acord DFS SS40t Drive, Dumoutier, Mege 3, inter series ROM cables, monitor, stand, user guide. Tel: 0926 339 932

SPECTRUM + 3 disk back-up utility for sale. Full instruction £6 inc. p+p. Details: 0202 522 256

AMIGA Nightbreed, Back to the Future 2, Shadow of Beast 2, Day of Thunder, Silent Service, Yolanda. £8 each. 0224 824 904

out, full manual, cables, new value £5.50. Now only £1800. Budden, Tel: 0935 862 433

COMPUTER Buff Clearing workshop. PS2 and PC/Atari parts HDO, FDD, cards. Tel: 0797 850 556

ATARI 520 games. Sim City £11 onto, Spinning Image £4 onto, Peter Beardley's Football, Italia 90, Rock Star (both Codemasters), Strip poker, Empire Strikes Back, Fireblaster Three £3 onto. Phone: Andy 0736 51718

SPECTRUM 128K+2, mouse, joystick, lots of software, v.good condition. £199 onto. Call Kevin 949 6709 anytime.

PBT ELECTRONICS LIMITED

PORT TALBOT WORKSHOPS, UNIT 17, PORT TALBOT, PORT TALBOT, WA12 6HZ

TEL: 0639 885008 FAX: 0639 887170

| | | | |
|--|---------|---|--------|
| SAM COUPE COMPUTER + 1 drive | £199.99 | UHF leads TV to Computer (BBC/C) | £1.99 |
| SAM COUPE COMPUTER + 2 drives | £275.99 | Speakers (BBC/C) | £1.99 |
| SAM COUPE COMPUTER + 3 drives | £359.99 | Speaker leads (BBC/Spectrum) | £1.99 |
| SAM 256K RAM EXPANSION | £39.99 | SAM Scart cables (connects to monitor) | £9.99 |
| SAM COMMIS INTERFACE | £29.99 | SAM Scart cables for Microvitec sub monitor | £9.99 |
| SAM DISC INTERFACE | £29.99 | SAM dual joystick adaptor (connects to SAM) | £9.99 |
| VOCIE BOX allows SAM to speak | £39.99 | SAM Midi cables | £6.49 |
| SAM Advanced Interface Pack | £52.99 | 3.5 inch DS/DQ disk box of 10 | £5.99 |
| SAM Advanced Technical Manual | £15.99 | Plus D/RS232C Disk Drive connector | £1.99 |
| Citizen 120D printer parallel | £140.00 | Parallel printer cable (SAM/BBC) + type | £7.99 |
| Monochrome monitor | £149.99 | Spectrum 128K power supplies | £18.99 |
| Parallel printer cable/SAM/BBC + type | £7.99 | A4 Printer Paper 2000 Sheets | £1.56 |
| Parallel printer cable/Spectrum + 3 type | £7.99 | | |
| Citizen 180Z printer | £169.99 | | |

For full price list of other products please ring.

All prices include VAT - Postage Printers/Computers £5.00. Postage all other products £1.00

MGT DISC DRIVES AND PLUS 'D' INTERFACES REPAIRED.

3 MONTHS GUARANTEE GIVEN ON REPAIRS.

Please telephone before sending repairs anytime until 8pm

GEMINI SHAREWARE (SOUTH EAST)

FOR ALL THE LATEST SHAREWARE

On the Amiga (over 1000 titles),
PC (over 1100 titles),
Macintosh (over 300 titles)
& Atari ST (over 700 titles)

Phone 0753 28183

For your FREE catalogue

Gemini Shareware,
10 Warwick Avenue, Slough SL2 1DX

AMIGA: Monitor stand, 3 joysticks, games, S.O.I. B, 1-2, Shadow Warriors, Kick Off 2, Turrican, Emlyn Hughes Soccer, Projective and more £300 onto. Phone Mark (Rayleigh) 781096 after 6pm.

AMSTRAD 464, TV Modulator, disc drive, speech synthesiser, stereo speakers, printer, lightpen, art and music studios, games £300. 081 598 9615.

MIDI, keyboard and software for Spectrum £20 and postage. Brother EP20 printer ribbons (6) plus roll thermal paper £20 and postage the lot. Tel: Buxton 0298 26800 (ask for Tony).

CPC6128 monitor, printer, joystick, lead for tapes plus lots of software, utilities and games, all originals £300 onto 0294 221316 after 6pm.

FRACTALS and Chaos for CGA, EGA, VGA, PC's: Jake Davies, Higher Tengwod, Constantine, Falmouth, Cornwall, TR11 5QR

GAMES for Amstrad cassette, about 70 full priced, e.g. Chase HQ. May Tel: 081 360 8770. £180 onto.

GAMES! For Amiga Cheap original! Ivanhoe £12, Con circuit, 99 Colorado £7 and many more! Tel: 081 360 8770

GAMES for the Amiga selling cheap. Originals in excellent condition. Phone Simon for details. 081 360 8770

ST-SOFTWARE: ST-Basic £10, Virus £9, Hard Drivin' £9, Chrono Quest £13, K'Minstrel 2 £10, Ring Kevin 949 6709.

CALEDONIA P.D.L.

250 OLDTOWN RD, HILTON, INVERNESS, IV2 4PT

ST 1 - 9 S/S or DS DISKS = £2.00 EACH
10 or more S/S or D/S = £1.50 EACH **STE**

SPECIAL CHRISTMAS OFFER

NOISETRACKER + OVER 100 SAMPLES
2 D/S DISKS FOR JUST £3.00

(Normally £2.00 each) - LIMITED OFFER

ALSO, SAVE ON BLANK DISKS WITH THIS GREAT PRICE:
(limited stocks) 10 x 3.5" 1 meg MITSUBISHI - £6.99.

Cheques & P/O's payable to Caledonia P.D.L. Hundreds more titles. Send SAE + £1.00 or a blank disk for our disk catalogue.

For more info Tel: 0463 225736

AUTHORISED BUDGIE UK DISTRIBUTORS

Educational Software

Nought to Nine NEW

At last, HAT's long awaited maths tutor designed to introduce the numbers nought to nine, in a simple, and friendly manner. Seven different colourful formats, and the facility to design your own graphic icons. Another quality package from the number one edsoft house.

Available Now! ONLY £14.95 + P&P

Learning to Type

Friendly, easy to use typing tutor. Enter your own typing course. Action typing game & typing course on disk - **ONLY £14.95 + P&P**

Jigspell

Spelling support package, 300 words on disk, and editor to add your own - **ONLY £14.95 + P&P**

Send SAE for full catalogue HAT Software

3 Alton Terrace, Belle Vue, Shrewsbury, SY3 7IW.

Tel: 0743 249526 Fax: 0743 271507

WANTED



USE YOUR VOICE
TO OUTDRAW THE
GUNFIGHTER

CASH PRIZES

0898 31 35 94

INFODIAL POBox 36 LS1 4TN Call charges 33p Per Min Cheap 44p Per Min All Other Times

PCTX 640K mono + VGC colour,
mouse, 2 joysticks, 32 Meg disk, 5.25
floppy. Cover 2 PC option board and
more. Tel 0504 435 564 after 8pm.

520 STFM 1 Meg INT/EXT drives
£1000 of software, mouse, mouse
master joysticks, mags, demos only
£350 Tel 071 791 3475

CBM64 Light Fantastic pack boxed
as new, 9 months old. Plenty of
games. £120 o.n.o. Tel 0922 29827

ATARI 520 STFM, Time works, 1 ST
word + Cobol, Basic, Modula 2,
STOS, Degas, Games, Great
bargains £300 o.n.o. Tel. 0494 542
116

AMSTRAD PCW 8512. Twin drive
printer + keyboard and manual ideal
for child's Xmas present £299 o.n.o.
Torquay 607 436

COMMODORE Plus+4 computers
wanted for cash. Fair price paid for
any old or second hand working
model. Phone Ed on (0420) 472334

WANTED Amiga or Naksha mouse
cash waiting, also 3D version
Rainbow Islands never used. Tel:
0630 58329 after 5pm.

SCANNER for Atari ST. Fair price
offered. Phone 098984 720 or 0225
462793.

WANTED, Multiface ST! I want your
games! Especially Test Drive
S/Sprint, DiY/TVC, Arkanoid 2,
Speedball, send me your lists! Also
fruit machine sims. I will pay your price
(maybe!) Tel: Andrew (0736) 51718.

REDRAM COMPUTERS

Custom Computer Systems

We assemble PC's to your specification.
Here are some examples of our prices.
All prices exclude VAT & delivery

| | | |
|--------------------|-------|---------------------|
| 286-12 | £999 | All systems include |
| 286-16 | £1100 | 1.2 or 1.44 floppy |
| 386-sx16 | £1200 | 40Mb IDE Drive |
| 386-25 | £1400 | 1MB RAM |
| 386-25 (32K cache) | £1550 | SVGA 640x400 Colour |
| 386-33 (32K cache) | £1650 | Serial Mouse |
| 486-25 4Mb RAM | £2999 | DR DOS V5 |

CALL OR FAX (0252) 734543 FOR UP TO DATE PRICES
44 Middlefield, Farnham, Surrey, GU9 8QA

ATARI ST magazines for sale. 200
assorted ST User, ST World, ST
Action etc. Offers. Buyer collects.
Tel. 0404 44068

AMSTRAD CPC disk S/W D. Lair 2,
Kuma Artwork £2 each. Tape games
£1 s.a.e. to 33 Handley ST,
Wednesbury, W. Mids, WS10 9DS.

◆ WANTED

WILL exchange Hyperdraw,
Hyperpaint and live games for one
Meg internal drive and modern (STE)
compatible. Phone 0232 792369
after 6pm. Ask for Stewart or leave
message.

SWAP Falcon Dungeon Master,
Chaos Strikes BK, Dragon's Breath
for Imperium and Resolution 101.
Tel: 081 570 2706.

AMIGA hard drive, must be good
working condition. Wanted for BBS.
call Chris 0689 800007. All offers
seriously considered.

WANTED Atari 520 STFM/STE 1
meg disk drive. No software needed.
Prices in the region of £160-£200.
Tel: Derby (0332) 776109 after 6pm.

WANTED, Amiga games, also
printer. Must be in good condition.
Telephone: 09724 337960

EPSON LQ500 dot sheet feeder
wanted: Call Ian on (Guilford)
0483271 705.

Computer LYNX
The AMIGA Disk Magazine!

ISSUE 20 NOW AVAILABLE!
NEWS - REVIEWS - DEMOS - UTILITIES
AND MUCH MORE!!!

See us at the
16 Bit Computer Fair

Computer LYNX costs just £1.50 + 50p P&P per issue from

Computer LYNX, 187 Perrysfield Road, Cheshunt,
Hertfordshire, EN8 0TL. Tel: (0992) 465366

ACORN AMSTRAD ATARI COMMODORE Z88

Citizen Panasonic Star Aries Epson
PRICE-BUSTING THE LEADING BRANDS

Archimedes Specialist
Established SIX Years

"Solid As A Rock"

Our Own Service Division 041-332-0625

Scotlands Leading Micro Specialists

THE COMPUTER DEPOT

205 Buchanan Street, GLASGOW 041-332-3944

55 Clerk Street EDINBURGH 031-668-4146

Inshops Wellgate Centre, DUNDEE 0382-29653

Licensed Credit Broker *Mail Order *

Ex-Demo
Many
Bargains

RIVERDENE PDL

35 School Road, Tilehurst,
Reading, Berkshire RG3 5AN
(0734) 452416 Fax (0734) 451239

ATARI ST & AMIGA PUBLIC DOMAIN SOFTWARE

1st Class Service

1st Class Disks

1st Class User Group

1st Class Postage

1st Class Selection

1st Class Help

FIRST CLASS LIBRARY

FREE PD CATALOGUE ON DISK

Please state Atari ST or Amiga
when you send a blank disk and
SAE to RIVERDENE PDL



TWIN 5 1/4" DISK DRIVES. A nicely cased self-contained unit with its own power supply. Product of a British maker. His 1 MB compatible 58K twin double sided 5 1/4" disk drive data £59.00. 53 1/2" double sided 5 1/4" disk drives £35.00.

DOUBLE SIDED DOUBLE DENSITY DISK DRIVES all by famous Japanese EPSON Co. All these models in stock with makers data. SM2240H, SM2290H, SM2240L, SM180G. Also 5 1/4" models SD5040 & SD580L, all brand new and will work with most 5 1/4" drives. £25.00 each + £3 delivery.

3 1/2" DOUBLE SIDE NEC card drives still available but not many left will work with the Amstrad ST. £59.50 + £3 delivery.

PRINTER PLOTTER by Sharp originally listed at £180.00 brand new with data £120.00.

BEST MULTILETTER Ex British Telecom, as new tested and guaranteed. Original cost probably over £50, yours for only £7.50. Leather case for this £3.00 + £3.00 post.

110 WATT POWER SUPPLY ASTEC switchmode, 230v mains input: 38w at 21/28 & 50 Hz outputs, encased and fitted on planar mounting plate with input socket and on/off switch. £10.00 delivered.

BRUSHLESS 12V DC FAN tiny, only 80mm square, good air mover but causes no interference £8.00.

M & B Electrical Dept NCE

12 Boundary Rd, Hove, Sussex. BN3 4JU

Tel: 0273 430380 Fax: 0273 410142. Telephone orders welcome

37.50
SOUNDTRAP 3
29.99



SOUNDTRAP 3 AUDIO SAMPLER

1. HIGHEST QUALITY
2. SMALLEST ON THE MARKET
3. FITS A1000 OR A500/2000
4. PRINTER PASS-THRU
5. GAIN CONTROL
6. SOFTWARE, SCREWDRIVER & LEAD INCLUDED.
7. COMPREHENSIVE MANUAL

MINI-MIDI INTERFACE + SOFTWARE

1. HIGHEST QUALITY
2. SMALLEST ON THE MARKET
3. FITS A500/2000/1000*
4. DATA INDICATORS FITTED
5. 2 METRES CABLE BUILT IN
6. FULLY OPTO-ISOLATED
7. TRIED & TESTED DESIGN

24.99
MINI MIDI
19.99

*A1000 REQUIRES SPECIAL ADAPTER

A500 REPLACEMENT DRIVE

59.95

A2000 INTERNAL DRIVES

59.95

MIDI LEADS 1.2MTR PAIR

2.95

MIDI LEADS 3.0MTR PAIR

3.95

MIDI LEADS 5.0MTR PAIR

4.95

23 WAY M or F (NO HOOD)

1.49

23 WAY M or F (WITH HOOD)

1.99

4 CHANNEL AUDIO MIXER

34.95

III INCLUDING MICROPHONE

59.95

A590 RAM CHIPS (1 meg)

28.00

B2000 DRAMS (2 MEG)

112.00

A3000 ZIPS (1 MEG) 264x40

65.00

A3000 ZIPS (4 MEGS) 1024x40

299.00

A3000 INTERNAL DRIVE

59.95

3.5" FLOPPY DISKS PER/10

55.50

S.T.RAP 3 + MINIMIDI

47.50

A500 512K W/CLOCK

29.99

2MEG A500 INTERNAL

175.00

8MEG EXTERNAL OK

219.99

8MEG EXTERNAL 2MEG

219.99

8MEG EXTERNAL 8MEG

529.99

2MEG INNATE + 68881 349.95

99.99

OK EXPANDER BOARD

279.99

8MEG A1000 BRD. 2M

54.99

OTHER BOARDS IN STOCK

POA

ACCELERATOR CARDS (A500/2000)

POA

68030 RACER 25MHz

375.00

68030 RACER 33MHz

499.00

68030/68882 25MHz

525.00

68030/68882 33MHz

675.00

54.99

84.99

94.95

19.99

32.95

29.99

59.99

76.95

FATTER AGNUS
CHIPS
NOW IN STOCK AT ONLY
69.95
WHILE STOCKS LAST

GENUINE CBM
A1010 EXT DRIVE
49.95
WHILE STOCKS LAST

WHILE STOCKS LAST

OMEGA PROJECTS

14 DERWENT CLOSE
CULCHETH , WARRINGTON
CHESHIRE , ENGLAND
WA3 5DY

TELEPHONE 0925-76-3946
0860-795260

ALL PRICES INCLUDE VAT & DELIVERY BY POST
ITEMS SHIPPED BY CARRIER WILL BE CHARGED AT COST

ROUTE PLANNER FOR THE AMIGA
GBROUTE
39.95

NEW

Two new brilliant
books from the
publishers of
New Computer
Express, Amiga
Format and ST
Format



THE ONLY WAY TO GET THE MOST OUT OF YOUR AMIGA & ST

In 172 information-packed pages it aims to provide advice on all aspects of the Amiga and ST scene: what software to buy, how you can get it free through the PD libraries, how to solve those tricky technical problems where you're going wrong with a game you can't beat.

You can get all this for the bargain price of only £9.95. Alternatively, for mere £4 more you can also have two 880K disks absolutely packed with the most useful utilities and the most entertaining programs, carefully picked to be the essential collection from the PD and elsewhere. Start getting the most out of your Amiga and ST!

BOOK ORDER FORM

- Yes, I would like to order _____ copy/copies of *GET THE MOST OUT OF YOUR AMIGA* at the recommended price £9.95.
(Please add £1.45 per copy to cover p&p.)
- Yes, I would like to order _____ copy/copies of *GET THE MOST OUT OF YOUR AMIGA* plus two disks at the recommended price of £13.95.
(Please add £1.45 per copy to cover p&p.)
- Yes, I would like to order _____ copy/copies of *GET THE MOST OUT OF YOUR ST* at the recommended price of £9.95.
(Please add £1.45 per copy to cover p&p.)
- Yes, I would like to order _____ copy/copies of *GET THE MOST OUT OF YOUR ST* plus two disks at the recommended price of £13.95.
(Please add £1.45 per copy to cover p&p.)

If paying by cheque, please enclose payment with this card in a sealed envelope addressed to: Get the Best Offer, FREEPOST, Future Publishing Ltd, The Old Barn, Somerton, Somerset TA11 7BR. (No stamp is needed if the letter is posted in the UK). Please allow 28 days for delivery.

Name: (BLOCK CAPITALS PLEASE)

Address:

Postcode:

Telephone:

I enclose a cheque for £.....

Made payable to Future Publishing Ltd

My credit card number is:

Expiry date:

Signed:

I wish to pay by Access/Visa*

(*please delete if access/visa)

ARRAN COMPUTERS

17A LOWER HILLGATE, STOCKPORT SK1 1JQ

TELEPHONE

061 480 3975

061 429 8817

Fax

061 429 8257



- PRICES INCLUSIVE OF VAT
- P&P FREE UK ONLY
- NEXT DAY COURIER ADD £5

Atari 7800
games console
2 joysticks
built in game
£69.99

A500
Screen Gems Pack
4 games
Paint Package
TV Modulator
Mouse
£375

Atari 1040 STE
word processor
database spreadsheet
adventure creator
hyperpaint
strategy game
£475

Full range
of joysticks
from £8.99

Atari 520 STE
Turbo Pack
8 games mouse
joystick
£375

Full range
of games
from 99p

Sega Megadrive
game control
pad
£185
(UK version)

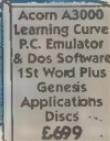
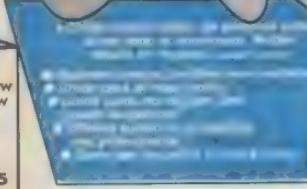


Star Printers
LC200 Col/mono
£235

LC94/200 Mono
£270

LC94/200 Col
£317

Commodore PC
Starter Packs
MSDOS Tutorial S/W
Typing Tutorial S/W
Integrated
Word Processor
Database
Spreadsheet
prices from £535



Acorn A3000
Learning Curve
P.C. Emulator
& Dos Software
1St Word Plus
Genesis
Applications
Discs ...
£699

- Amstrad, Commodore, Philips and Olivetti authorised business dealer • Ring for price lists
- Large selection of games on most formats • Large selection of business software IBM/PC compatibles

EXPRESS ON-LINE

Your weekly guide to the hundreds of bulletin boards and user groups now on three pages. This week's featured bulletin board is Gnome At Home. And if you run a board, don't forget to write in with all the details!

• USER GROUPS

AMIGA DISK FANZINE – packed with information, reviews, art section and PD software. Send £3 for the latest two Disk issue to Paul Harthen, 43 Boyd's Walk, Dukinfield, Cheshire, SK16 4AX.

CALAMUS USER GROUP – getting organised. Contact Dave on 0922 649410 evenings or write to Flat 3, 68 Corporation Street, West Wallsall, West Midlands, WS1 3QH.

CHESHIRE 16-BIT USERS CLUB – Amiga, ST, PC, Arc at Radley Common community centre, off Poplars Avenue, Orford, Warrington, Friday nights, pm to 10.30pm. All welcome. £1 admission. Bring your machine if you can.

C64 SOFTWARE LIBRARY – rent, swap or buy original cassettes. Hundreds of titles available and many bargains. Free game when you join. For details send SAE to 12 Dagmar Road, Windsor, Berks, SL4 1JL.

EDINBURGH AMIGA OWNERS – I would like to form a user group for all us over 18s we can go to the pub that way! I already have a few folk interested and they are a friendly bunch. Interested? Please phone me on 332-4938

JOMAC USER GROUP Spectrum and Amiga tips and pokes sent every month. Write today for all up to date

information to Jomac's, Flye Grove, Rhodes Street, Hull, HU3 5RY. Send SAE.

MICRO-DESIGN USER GROUP – a new group for those PCW owners requiring assistance and advice with this DTP package. Large clip art library available. Phone Phil on 0709 543390 for further details (24 hour answerphone)

SERIOUS GAMER – strategy RPG simulation adventure on the PC newsletter helpline. For more information write to Serious Gamer c/o Flat C, 43 Colvestone Crescent, London E8 2LG. Telephone 071 241 5446.

SHREWSBURY AMIGA USER GROUP – informal meetings and lots more planned. Write to A Prece, 1 Haughton Court, Featherbed Lane, Harlescott, Shrewsbury, SY1 4NJ. Enclose SAE.

STEN – the ST enthusiasts newsletter. Send a disk and an SAE for your free copy to Dave Mooney, 14 School Road, Morningside, Newmans, Lanarkshire, ML9 8RZ.

TCS PD – over 250 disks to select from only 99p. Send SAE to 40 Upton Gardens, Tarring, West Worthing. Sussex.

TYPECAST – new PD library for the ST/STE. Solely for DTP, WP, clip art and art programs. No games. Send a

disk and SAE for Disk catalogue to Paul Sealy, 31 Hartfield Crescent, West Wickham, Kent BR4 9DW.

ACORN ARCHIMedes.RISC user, 117 Hatfield Road, St Albans, Herts AL1 1EX

ACORN ARCHIMedes.Archive, 111 Mile End Road, Northwood HA8 7QD

ADVENTURE PD – Amstrad Adventure PD wants anything adventurous (adventures, utilities etc). Will return tape/disk with other stuff on it. Send SAE for more information

AMATEUR RADIO ICOM – write to Simon Lewis GM4PLM, Commodore Utrs User Group, 69 Irine Drive, North Clepons, Lymwood, Paisley PA1 7BB.

AMATEUR RADIO QM0J/MOK – If interested contact PA1 & John Beebe GW6MO/MOK BARTY Hamradio, Salem, Llandaff, Wales SA1 7JB. 0558 822 289. MBX 558 822 286

AMIGA CHEAT DISK FANZONE – JS Smith, 45 Maplecroft Crescent, Sheffield S9 1DN.

AMIGA PUBLIC DOMAIN – Amiga 1000s of disks available. Games, demos, utilities, music, graphics, etc. JJ Meeschen, 59 Lee Road, Harwich, Essex, CO12 3SB. Hunt

AMIGA PUBLIC DOMAIN – Amiga 1000s of disks available. Games, demos, utilities, music, graphics, etc. JJ Meeschen, 59 Lee Road, Harwich, Essex, CO12 3SB. Hunt

AMIGA PUBLIC DOMAIN – Amiga 1000s of disks available. Games, demos, utilities, music, graphics, etc. JJ Meeschen, 59 Lee Road, Harwich, Essex, CO12 3SB. Hunt

AMSTRAD BUSINESS USRS - Amstrad Professional User Club, enterprise House PD BOX 10, Koper St, Pallion Ind Estate, Sunderland SR4 6SN. 091-510 8787

AMSTRAD CPC USERS – Tony Baker, United Amstrad User Grp, 25 Uladian Crescent, Fareham, Hants PO16 7JJ. 0392 234 291

AMSTRAD CPC HOME USERS – Steve Williams, WACCI, 9 South Close, Twickenham TW2 5JE. 081-809 1090

AMSTRAD LOCAL GROUPS – Amstrad Groups Federation, 4 Sutton Road, Gorton, Manchester

AMSTRAD PC SOFTWARE – Colin Small, COLBAR, 10 Penwood cl, Westbury, Wilts BA13

AMSTRAD PCW - PD software – Bob Ellis 0432 761860

AMSTRAD PCW - Bob Ellis "Rowan" 100 St Peters Close, Moreton-in-Lugg, Hereford HR4 8DW. 0432 761 860

AMSTRAD CPC HOME USERS – Steve Williams, WACCI, 9 South Close, Twickenham TW2 5JE. 081-809 1090

AMSTRAD 1512/1640/PPC - PC independent User Group, The Computer Advice Centre 87 High Street, Tonbridge, Kent TN9 1RX Phone 081 771 512

AMSTRAD BUSINESS USERS – Amstrad Professional User Club, Enterprise House PD BOX 10, Roter Street, Pallion Industrial Estate, Sunderland SR4 6SN. Telephone 091-510 8787

AMSTRAD LOCAL GROUPS – Amstrad Groups Federation, 4 Sutton Road, Gorton, Manchester

AMSTRAD PCW - Bob Ellis "Rowan" 100 St Peters Close, Moreton-in-Lugg, Hereford HR4 8DW. 0432 761 860

APPLE II USRS – telephone 051 2984142 for further details

APPLE MACINTOSH, John Lewis, Macintosh user group, Macintosh House 11 South Parade, Sunmount, Devon EX2 7JL

APPLE SYSTEMS – Irene Flaxman, Apple 2000, PO Box 3, Liverpool L21 8PY

ARABIC COMPUTING – write to Rich Lackey, Arabs, 9 Belvoir Road, Worthing, West Sussex BN13 1EY

ASHTON TATE SOFTWARE – Silvia Robinson, Baseline, Ashton Lane, I Bath Road, Maidenhead, Berks 0628 33123. Prestel page 43221

ATARI ALL MACHINES – Colin Hunt, BaPAUG, Wimborne Road, Oakdale, Dorset BH15 3EF

ATARI AND AMIGA PC EMULATOR SUPPORT CLUB – 153 Parrock Street, Gravesend, Kent, DA1 2ER

ATARI PORTFOLIO – D Cigan, Alan Portfolio User Group, 84 Cambridge Avenue, Gidea Park, Romford RM2 6QJ. 0708 730764

ATARI ST RESURRECTION SOCIETY – 0495 272092

ATARI ST SOFTWARE – write to 16/32 PD library 35 Northgate Road, Stroud, Kent ME2 2OH

ATARI ST - Paul Glover, The ST Club, 9 Sutton Place, 49 Stoney Street, Nottingham NG1 1LX. 0602 410241

ATARI STATE HELPLINE – We can scan, digitise and provide loads of clip art. For details send SAE to Not S3, Lenaghan Park, Belfast, BT8 1JG

BBC MICRO - BEEBUG, 117 Hatfield Road, St Albans, Herts AL1 1JS. 0727 40303

BURMAN'S PD Amiga only 40p a disk. For a catalogue send a blank disk and an SAE to Burman's PD, 41 Pinner Park Gardens, Harrow, Middlesex HA2 8LQ

BURNAMS PD – 41 Pinner Park Gardens, Harrow, Middlesex, HA2 8LQ

C64 PD CLUB – E Masaba, 84 Gammyole Rd, Liverpool L15 3JR

C64 PUBLIC DOMAIN – Phoenix, 64 Planterow, Basildon, Essex

C LANGUAGE – Martin Houston CUG (JK) Houston Technology Ltd, 14 Arden Oak Rd, Sheldon Birmingham BS26 3XL Telephone 021-722 5186

C USER GROUP – phone 0865 246490

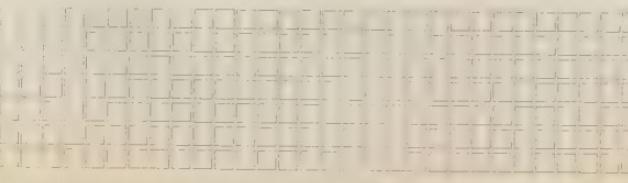
Get yourself listed!

If you run a user group or bulletin board, don't miss out – fill in the form for a free entry and send it to Express On-line, 30 Monmouth Street, Bath BA1 2BW.

From:

Address:

User group/Bulletin board [please list as applicable] Specialisation



CAMBRIDGE Z88 - Roy Woodward, 288 Deneham Club, 68 Wellington St, Long Eaton, Nottingham

CD ROM - UK CD-ROM User Group, High Wings, Salem, Trefoyle, Aberavon CF79 844 370

CHOICE online help. Telephone: 0308 23224 7-9 am only for now

CHESTERSHIRE NIMBUS USER GROUP - Geoff Nelder, Queens Park High School, Handbridge, Chester CH4 7AE

CHURCH ADMINISTRATION - Rev Stoker Wilson, Church Computer Use Gp, St John's Vicarage, Greenside, Ryton, Tyne & Wear NE40 4AA. 091-432 8210

CIO (Computers and Integration for the disabled) is a registered charity. Telephone 0467 24202, ask for Gordon

COBOL LANGUAGE - Allen Reave 22 Mountray St, Portadown, Northern Ireland. BT62 3AW

COMPUNET - Independent Computer Club, 148 Farzehill road, Ellesmere Wood Herts

DATEASE USER GROUP - High-Tech House, 10 Blackfriars Street, Norwich NR3 1SF

ECONET - Michael Ryan, Econet User Gp, Ballencrieff Cottage, Eassie by Forfar, Angus DD8 1SR

ENET (the econet) - T K Boyd, Enet (Ancom) User Gp, Sarstoff Cottage, Petworth, West Sussex GU8 0NB

EXMORE SOFTWARE - Queen Street, Lynton, N Devon EX 35 6AQ

COLEAC ADAM - Keith Mamer, UKAS 33 Homer Road, Croydon CR9 7SA

COMMODORE ALL MICROS - Jack Cohen, ICUPG, 30 Brancaster Road, Newbury Park, Ilford IG2 7EP. 081-346 0050 home: 081 579 1229 day

COMMODORE AMIGA - UK Amiga Users Group. Contact 14 Charles Street, Leicester LE2 0OD .0533 510066 voice; 0533 5117615

CLARGY/MEDICAL EDUCATION - Mr J Jones, FREE ED Shrewsbury/PD 85 Stoke road, Taunton, Somerset TA1 3EL. 082 321 481

COMMUNITY COMPUTING - Community Computing Network, 2nd floor, 35 Park Lane, Newcastle NE1 5DW 091-261 0317

COMPUCORP - Compucorp University users group c/o Compucorp, Cuningham House, Westfield Lane, Kenton, Mdx

COMPUNET - write to independent Computer Club, 145 Farzehill road, Ellesmere Wood Harts, WDX 2DX

CONFERENCE - Compulink, suite 2, The Scantuary, 23 Oakhill Grove, London NW10 9TR. K16 DDU. Voice 081-390 6464 CIX BBS C61-399 5282

CMP & MS DOS USERS GROUP - 42 Birkbeck Road, Wimbeldon, London SW19 9NZ. 081-543 0824

CRYPTOGRAPHY & CODES - Mike Barlow, American Cryptogram Association 5052 Chestnut Avenue Pierrefonds, Quebec H2B 2AB Canada

DATA PD LIBRARY for Amstrad CPC users. Send SAE, tape/disk and 50c to Knigsmill 202 Park Street, Lane Park, St Albans, Herts AL2 2AQ

DISABLED - Jeff Hughes, Special Needs User Gp, 39 Ecclesfield Gardens, St Helens WA10 3JB. 0744 24508

DRAGON - Pre Grade, National Dragon Users Group, 6 Navarino Road, Worthing, Sussex or telephone 0903 207585

ECONET - write to Michael Ryan, Econet User Gp, Ballencrieff Cottage, Eassie by Forfar, Angus DD8 1SR

EDUCATION - Charles Shannon, TECLUG, 35 Wellington St, Gravesend, Kent DA12 1JG. 0474 567931

EIGHT 21 BACK UP8 User group for all. 25p plus p&p. To: 8-bit back up, 1 Northgate Close, Grays, Essex.

EINSTEIN - Graham Bellamy, UKEUG 80 Dates Road, Ipswich IP1 4JR

EINSTEIN PD USER GROUP - Help and advice for all Einstein users. Over 100 disks of PD software. Send SAE to SWF Knives, 23 Howdsworth Road, Arnold, Nottingham, NG5 8HJ

ELMINSOFT PUBLIC DOMAIN SERVICE for the ST any weekend at Camden canal market, Haven Street, London

Emulate. For Amiga, Amex. With monthly newsletter. Write to 1st Pat 120 Northbrook, Nairn, N.W. 11

ENTERPRISE - William Cresser, 5 Present Street, Shaw, Oldham OL2 8AQ. Independent Enterprise User group. Tel 0706 881382 7.9pm weekdays.

ENTERPRISE - Tim Box, independent Enterprise User Group, 50 Holdsworth Street, Finchley, London N1 2 KO. 081-346 8032

FLIGHT SIMULATOR (MSDOS). Alan Hawkin, SCIMI Ltd 2 Healey Manor Runcible Ave, Scarborough YO1 5UZ 012

FORTH Language - Douglas Neale, FIG (Forth Interest Group) UK, 58 Woodland Way, Morden, Surrey SM4 4DS

FRACTALS/CHAOS THEORY - Andy Lunness, 69 Bakers Avenue, Bury, Lancs BL9 5RN. Telephone 061-764 5469

GENEALOGISTS - Computer Group, Society of Genealogists, 14 Chancery Buildings, Conduit St, EC1V 7SA. 01-731 799

GENERAL HOME MICROS - Steve Writer, Chic Computer Gp, PO Box 201, Gerrards Cross, Bucks SL9 9PY. 0753 884473

GUNNING PD ST PD - 47 Auchincarron, The Tryst, Edinburgh, EH10 7HK

GUAGE - Martin Houston CUG (UK) Houston Technology Ltd, 14 Arden Oak Rd, Sheldon Birmingham B56 3XZ 0122 3164

HITCHIE MBE 16002 PC - Bruce Ainge HICLIPS 15 Nine Acres Road, Coton, Kent ME2 1EL. 0634 715759

HOUSING ASSOCIATIONS - Caroline Maries, Micro Users Ltd, Beaver Housing society, 23 Lewisham High Street, London SE13 5AF. Telephone 081-318 1126

HEALTH WORKERS - Sue McKendrick, Healthlink, 164 Windsor Rd, Ashton-in-Makerfield, Wigan WNA 8SE. Voice: 0924 712 385

IBM PC - The IBM PC User Group PO 300 36X, IBM LAN HTL 4LQ 081 863 1191 BBS 081-863 6546

JUPITER ACE - John Charter, Jupiter Ace FORTH User Group, 17 Spring Wood Close, Dunster, Somerset BA1 5EY. Tel 0268 237355

FIND YOUR LOCAL CLUB - John Dale, Banc y rhos, 14 Bon Y Glyn, Brynmawr Arms, Carmarthenshire SA3 6JB. 0267 230 771

LOCAL AUTHORITIES - Local Authority Micro User Group, Alan New, Technical Engineer's Dept, Municipal Offices, North Quay, Weymouth, Dorset DT1 6TA. 0305 782101 ext 272

LOTUS PRODUCTS - Lobs User Group, 79-80 Peacock St, Windsor, Berks SL4 1DH. Telephone 0753 841686

LYNX DISK USER GROUP - J. Kourousseas, 17 Pastorey Gdns, London N18. Tel 081 807 3859

MEGADRIVE CONSOLE CLUB - Megadrive games user group, old, bought, sold. Also exchange games. Andrew Stanford (0781) 764039

MEMOTECH FILE - 92 Stibthorn Road, Biddulph, Staffs ST8 6LL

MEMOTECH - Phil Hayes - Memotech Owners Club, 23 Denmead Road, Fareham, Hampshire SO2 5GS. Tel 0703 585106

MICROSOFT WORD - Lesley Port, Microsoft Word User Group, Fab House, Madras Way, Bachehors Acre, Widford, Barks SL4 1EL. 0753 831001

NINETY 21 BACK UP8 User group for all. 25p plus p&p. To: 8-bit back up, 1 Northgate Close, Grays, Essex.

MID CORNWALL COMPUTER CO-OP. Atari ST 8 Victoria Road, Rocka, St Austell, Cornwall PL 26 VTX 078 026 909473

MIDI/MUSIC - Spectrum music machine/MIDI user group. Magazine on tape, plus programs and lots more. For more details contact Sean Sanderson on 0524 62256

MOTOROLA 68000 MICROS - write to Rick Applegate, 68 Microgroup, 8 Great Cob, Springfield, Chelmsford, Essex. BBS 081-316 7402

MSX SYSTEMS - write to Keith Neal, MSX Link, Astbury House, 80 Astbury, Bourne, Lincs PE10 9JG

NASCOM/BUS/CPM - Scorpio Systems, PO Box 266, Aylesbury, Bucks HP2 6PU. 026 0296 2488

NEWBRAIN - Ron Bury, NewBrain Support Grp, 70 Cranberry Lane, Darwen, Lancs BB3 2HL. 0254 771891

NWBUG - write to 13 Belle Vue Ave, Gosforth, Newcastle-upon-Tyne NE3 1AH. Telephone 091-285 7608

NW ARCHIMedes USER GROUP - Meets every Friday at Citizens Advice Bureau, next to Spectrum at Granville House, Warrington. Ring Paul on 051-246 3915 after 6pm

OS/2 - Karen Burns, OS/2 User Group, Cecily Hill Castle, Cirencester, Glos GL7 2EF Telephone 0285 655882

OSBORNE OWNERS - write to Jeremy Broome BBS, 102 Aldershot Road, Fleet, Hants GU3 9 NY. 0205 621745 voice or 0262 623333 BBS

PC/PD CLUB - write to 48 King William Drive, Cheltenham, Glos. GL3 5LR 7TP

PC SOFTWARE - PC Service, 1147 Greenford Rd, Greenford, Middlesex UB6 0DP. 081-864 2611, BBS 081-864 2633

PHILOSOPHY APPLET - George, Chinese Room 123 Conwalls Gdns, Hastings, East Sussex TN34 1LX. 0424 714 1102

PICK OPERATING SYSTEM - Hugh Kelt, UK Pick Users Assoc., PO Box 907, London N10 2SB. 081-462 4666

PRESTEL - Andy Leeder, ClubSpot 810, Church Street, Stratton St Michael, Norwich, Norfolk NR9 1QZ

PSION ORGANISER - Mike D'Regan, IPSO, 130 Stapleford Ln, Beeston, Nottingham NG9 6QB. 0119 735482

PUBLIC DOMAIN - Amiga disk fanzine, featuring software in public domain. Write to Chris Jackson, 3 Almon Terrace, Letherhead, Surrey KT20 5QH. No. 1, £1.00

RESEARCH MACHINES - Steve Rochford RM National User Group, George Stephenson High School, Sedgefield, Langwathorne, Newcastle NE12 0SA. 091-268 2002

REVELATION (PKC) - write to Malcolm Frame, UK Revelation User Group, 136 Saint Albans Road, Hatfield Herts SG1 2AE or Telephone 0923 35515

R/BASE - write to Mrs Tansy Real, BRS User Group, C/o ABBAD4 20042 BBC Woodlands, 80 Woods Lane, London W12 OTT. Telephone 081-576 7187

SE7 PD FOR THE ST - large selection of PD from E1. Send £1 or a disk and 50p for a fist. All prices include postage and packaging. Send cheque or PO to Simon Ewa, S&P 6 Crediton Road, London NW10 3UD

SAA00 User group - write to Roy Williams, 17 Grove Road, Acton, London W5 6AW.

SANYO MBC550 - M BC Syed, Wistania, 53 Acacia Grove, New Malden, Surrey KT3 3BP. 081-942 9009

SCHINDLER URC - Peter Kelford, SEPUG, 1 Cabro Road, Three Bridges, Crawley, West Sussex RH1 0 NF

SCIENTIFIC PC USERS - write to Tim Bussey, SCPOU, PO Box 17, Retford, Notts DN22 6BQ. Telephone 0777 709009

SEGAW SWAP CLUB Exchange your old megadrive/master system carts - 10 Sandwith Road, Todwick, Sheffield, S33 0JP

SERVICES USERS - Squashers Leader G Howson, Services Personal Computer Association, St End 0153 8032 1100

SHARP CLRS CLUB Andrew Ferguson, 11 Harcourt Close, Henley-on-Thames, Oxon RG9 1UZ. Telephone: 0491 747850 evenings only SIRIUS - Simon Sheppard, ISSUE PO BOX 222, Brighton BN1 3BR

SOFTWARE EXCHANGE - SAE for info 13 Bourneville Lane, Buntingford, Herts SG9 2YR or call 0860 444594 12-10pm

SOUTIDE MOUNTAIN - Friendly new Amiga user group. Send blank disk or 50p to 565 Swithland, Dagenham, Essex

MDR-22 M23 B Nicholson, Schlumberger Norge A/S Stigsteigen, 4007 Stavanger, Norway. 475 67002

SOUTHERN AND DISTRICT. PC and ST user group. Tony Lowe 611 Broadway West, Leigh on Sea, Essex SS9 5BX

SPECTRUM PLUS 3 USER GROUP - monthly magazine. 57 Lovers Walk, Dunstable, Bedfordshire, LU5 4BG

SPECTRUM DISCOVERY CLUB - magazine on disk for the Qdos Discovery Disk Drive and the Sam Coupe. BD Mumford 573 St Saviours Road, West Croydon, Surrey CR0 2XE

STDS magazine, out every month. Send an SAE for details to 11 Shore Crescent, Bishops, Waltham, Hants SO3 1DZ

SUPERPROJECT - Geoff Groom, 3 Sunnymeads Ave, Carshalton Beeches, Surrey SM5 4JA. 081-643 3336

SYNCDROPSIT, Exclusive 64 computer information. Harddrives, floppy drives, pocket pocket. £2.95 to join, including p&p. Make cheques to Syncropit and send them to 9-10 Morland Gdns, Southall, Middlesex UB1 3DY

TADS (DATABASE) - Neil Hegarty, TASUG C/O Solutions for You, 1st Floor, 2 Lynton Rd, New Barnet, Herts EN5 5BY. 081-441 1133, BBS 081-449 4171

TANDY/MICROS - Roger Storr, NATGUG C/O Lodge Rd, Linchgate, Wrexham, Clwyd LL12 8JL. 01243 744 920

TEXAS T199/4a - Peter Walker, T199/4a User Gp, 24 Bacchus Drive, Cudmore, Potters Bar, Herts EN6 4DU. 0707 827378

TEXAS T199/4a - Peter Brooks, International TI User Group, 96 Banbury road, Oxford OX2 6JT. 0865 519822

THUNDERBUSES, CBM 80 user magazine on disk/tape. Send for details and competition to Thunderbuses, 159 Hough Road, Wallsall, West Midlands WS2 9BG

TIGUK/T99/4a - Peter Walker, T99/4a user group for UK on disk and module. Offers magazine and help. Write with SAE for more details to Peter Walker, 24 Bacchus Drive, Cudmore, Potters Bar, Herts EN5

TRANSPUTER - Howard Oakley, Transputer User Group, Brooklands Lodge, Park View Close, Wrecclesham, Surrey, GU10 4LP

UXIUS USERS - UKUG Secretariat Owles Hall, Buntingford, Herts SG9 9PL. 0763 73039 /73258 fax

VENTURA PUBLISHING - Ventura Publisher User Group (apr) Linda Iddell PML 0114 210000

WORDPERFECT - Michael Norman, Wordperfect User Group (US) Dove Barn, Manor Farm, Wootton Woodstock, Oxon, OX7 1DX Telephone 0938 812 670

WORDPERFECT - Dr Michael Barton, A Perfect World, High Riggs, Altna Rd, Tideswell, Derbyshire SK17 6LS Telephone 0298 671 925

• BRS

WEST NORFOLK BBS - call 0553 761290 at 1200/2400 baud. On-line 10pm to 8am. Specialist Railway area and newsletter. Good for just testing the comms water. Net mail (2-254-772). Some schools

BEXHILL COMPUTER CENTRE - telephone 0424 224417.
Speeds V21, V22, V22bis and V23. Open outside 9am-5pm
hours, and all day Sundays.

ALMAC PC BOARD - Link and Fido mail sections, mainly for PC PD software, but some Amiga and Atari. 0324 665371 - 300 - 2400 MNP5. Other modes are 0324 665450 - HST dual standard and 0324 665449 Hayes V Series 9600.

EDINBURGH CASTLE BBS -
031 334 7043 - HST dual standard

INFOCOMM UK - 0895 72021
local call London V21, V22 V22
BIS, 9am to 9pm seven days a
week. Ideal for newcomers and
old-timers alike.

01 For Amiga 071-377 1356 v21/22/22b/23 D.I.E.
061 PC Speed 061-443 1529 V21/22/22b/23 Double
Distribution

| | | | | |
|--------------------|--------------|---------------|-----|--------------|
| Above Board | 0254 682862 | V21/22/22b | Hst | Dark Halo |
| Absolute Zero Obbi | 081-741 7233 | V21/22/22b/23 | | Dark |
| Advance Opus Hull | 0492 28367 | V21/22/22b | | Dorfhaven |
| After Hours | 0278 52096 | V22/22/22b | | Data Network |
| Airtel | 0042 717800 | V21/22/22b | | DatasetWanda |

| | | | |
|---------------------|--------------|--------------|------------------|
| Alan Solomon's | 0848 724946 | V21/22/22/23 | Dbase User Group |
| Alchemical | 0685 504567 | | Dce Board |
| Alternative Reality | 0352 855626 | V21/22/22/23 | Dcs |
| Alternative Reality | 0959 766985 | V21/23/23/24 | Deep Thought |
| Alternative Reality | 091-761 8220 | V21/23/23/24 | Desart |

| | | | |
|--------------------|--------------|---------------|----------------|
| Amiga Connect | 081-981 5299 | V21/22 | Digimedel |
| Amiga Stack | 0737 361178 | V21/22/22v/23 | Digital Matrix |
| Amiga South-e-mail | 0293 28464 | V21/22/22v/23 | Direct-line 1 |
| Amilink Bbs | 021-778 5068 | V21/22/22v/23 | Direct-line 2 |

| | | | |
|----------------------|--------------|-----------|---------------|
| Apple Crackers | 0268 781318 | V21/22/23 | Dunedin Black |
| | 0268 780724 | V22/225 | Dearien Realm |
| Apricot Tech Support | 021-458 2402 | V21/22/23 | Ebbe-1 |

| | | | |
|---------------|--------------|--------------|----------------|
| Arabs | 0625 533053 | V21:22/22v23 | Emptiness |
| Argus Project | 081-496 0327 | V21:22/22v23 | End To End |
| Arikham Bbs | 081-552 5128 | V21:22/22v23 | End Zone |
| Attack's | 061-710 0660 | V21:22/22v23 | Emptiness Work |

| | | | |
|------------------|--------------|--------------|----------------|
| Alavachron | 0483-412384 | V23v | Europa; Gathew |
| Affic | 081-308 0466 | V22/22b | Eureka II |
| Avid Rækje | 031-563 9924 | V21/22/20/23 | Exchange S/W |
| Avalon Northeast | 081-584 0009 | V21/22/22b | Eye-2 |

| Barcode | Title | Author | Date | Genre | Language | Publisher |
|-------------|--------------|--------|------|-----------|----------|-------------------|
| 0004 542560 | V21/23/23/23 | | | Family | English | Family Shakespear |
| 0004 542560 | V21/23/23/23 | | | Fan Tiger | English | Fan Tiger |
| 0004 552525 | Hst | | | Fido UK1 | English | Fido UK1 |

Beth Bts 0225 83584 11B40060 Focus Internat
Bbs09 9705 7361025 Hsi Focus Tobs
Box 681-593 3732 V21/22/2022v23 Focus UK
Beth Bts 0225 83584 11B40060 Focus Internat

| | | | |
|-----------------|--------------|---------------|-----------------|
| Beyond Belief | 0642 787398 | V21/23 | Fox's Den |
| Big Bang Burger | 081 420 6356 | V21/22/23b/23 | Free Nel One |
| Bike Shop | 0705 827764 | V22/22b | Freelance Lynch |
| Bitbox | 0634 200231 | V21/22/22b | Friday The 13th |

| | | | |
|--------------|--------------|--------------|---------------|
| Simon Gibbs | 01754-0754 | V21/23 | Games Online |
| Bitter | 0292 671638 | H1 | Gallery Gibbs |
| Body Matters | 071-603 7581 | V21/22/23/24 | Game Over |
| Boggin | 0532 483563 | V23/24v | Games Online |

| | | | | | | |
|----------------|--------------|---------------|----------|-------------|-----------|------------------|
| Bratdoge | 0274 564545 | V21/22/22 | Bratdoge | 0274 564545 | V21/22/22 | Bratdoge At Home |
| Bradford Be | 0274 486452 | V21/23/23 | | | | Gnome At Home |
| Braindead Opus | 0825 254352 | V21/22/22/23 | | | | Gods |
| Breakthrough | 051-734 5817 | V21/22/22b/23 | | | | Gothy! |
| Bratdoge | 0274 564545 | V21/22/22 | Bratdoge | 0274 564545 | V21/22/22 | Bratdoge At Home |

| V21/23 | Star Air | 055-36384 | V1/22/22/23 |
|------------------------|------------------------|---------------|-------------|
| Sofitel-Cl | Sofitel-Cl | 301-313 374 | V1/22/22/23 |
| Sooth Optic | Sooth Optic | 041-788 673 | V1/22/22/23 |
| Southern Wildcat | Southern Wildcat | 041-711 673 | V1/22/22/23 |
| Spa One | Spa One | 041-711 673 | V1/22/22/23 |
| Spectra | Spectra | 073-45245 | V2/23 |
| Spiral Queso | Spiral Queso | 030-88515 | V2/23 |
| Sprint 21 | Sprint 21 | 068-71849 | V1/22/22/23 |
| Hrt | Shades | 0041 01005 | V2 |
| Sprint 21 | Sprint 21 | 068-71849 | V1/22/22/23 |
| Spoonhead | Spoonhead | 381-498 407 | V2/23 |
| Stargate | Stargate | 041-788 673 | V1/22/22/23 |
| Starwaya Library | Starwaya Library | 040 13404 | V2/22/23 |
| Shady L's | Shady L's | 073 51069 | Hrt |
| Shredwood Forest | Shredwood Forest | 066-37113 | V2/23 |
| Short Circuit | Short Circuit | 073 42067 | Hrt |
| Sid (son Jevon) S | Sid (son Jevon) S | 073 42067 | Hrt |
| Sir | Sir | 031-337 583 | V1/22/22/23 |
| Six Box | Six Box | 030 65436 | V2/23 |
| Sixus | Sixus | 063 65436 | V2/23 |
| Sitrus | Sitrus | 081-425 372 | V1/22/22/23 |
| Sitrus | Sitrus | 040 77845 | V2/22/23 |
| Sitrus Tower | Sitrus Tower | 031-443 1194 | V1/22/22/23 |
| Hrt | Sitrus Tower | 040 77845 | V2/22/23 |
| Skyline | Skyline | 073 41491 | V1/22/22/23 |
| Skin | Skin | 040 77845 | V2/22/23 |
| Skeletal Bts | Skeletal Bts | 073 32340 | V1/2/22/23 |
| Skhive Society | Skhive Society | 083 65114 | V2/23 |
| Skins Of Men | Skins Of Men | 073 65956 | V1/22/22/23 |
| South Lakes Bts | South Lakes Bts | 076 65382 | V2/23 |
| Southside | Southside | 073 65382 | V2/23 |
| Spiral Infinity | Spiral Infinity | 040 77420 | V2/23 |
| Pock Bts | Pock Bts | 030 76735 | V1/2/22/23 |
| Sphere | Sphere | 030 21565 | V1/2/22/23 |
| Sprout & Sprout | Sprout & Sprout | 050 31774 | V1/2/22/23 |
| St London Bts | St London Bts | 040 77845 | V1/2/22/23 |
| St. Louis | St. Louis | 040 77845 | V1/2/22/23 |
| St. Louis | St. Louis | 040 77845 | V1/2/22/23 |
| St. Louis | St. Louis | 040 77845 | V1/2/22/23 |
| St. Louis | St. Louis | 040 77845 | V1/2/22/23 |
| St. Louis | St. Louis | 040 77845 | V1/2/22/23 |
| St. Louis | St. Louis | 040 77845 | V1/2/22/23 |
| Star Ut Neteros | Star Ut Neteros | 061-425 533 | V2/23 |
| Stemming | Stemming | 040 77420 | V1/2/22/23 |
| Steppin' On | Steppin' On | 040 77420 | V1/2/22/23 |
| Super Gals Bts | Super Gals Bts | 074 28045 | V1/2/22/23 |
| Swish Newcomer | Swish Newcomer | 070 61685 | V1/2/23 |
| System-e-v | System-e-v | 040 50607 | Hrt |
| T.A.b.b.s. | T.A.b.b.s. | 033 51715 | V1/2/22/23 |
| Talos | Talos | 020 11797 | V1/2/22/23 |
| Talos | Talos | 020 11797 | V1/2/22/23 |
| Talos | Talos | 020 11797 | V1/2/22/23 |
| Tat'S Reward | Tat'S Reward | 054 450 | V1/2/22/23 |
| Taxis | Taxis | 077 22724 | V1/2/22/23 |
| Tasque | Tasque | 033 22264 | V1/2/22/23 |
| Tavag Cops | Tavag Cops | 5004 76919 | V1/2/22/23 |
| Taw | Taw | 040 77420 | V1/2/22/23 |
| Tell-enrolled | Tell-enrolled | 030 15141 | V1/2/22/23 |
| Tegula Seven | Tegula Seven | 070 55776 | V2/23 |
| Terminal Net 5 | Terminal Net 5 | 042 45135 | V1/2/22/23 |
| Terminal-net | Terminal-net | 042 45136 | V1/2/22/23 |
| Hrt | Tape Bts | 030 70104 | V2/23 |
| Teen Wave | Teen Wave | 071 652 310 | V1/2/23 |
| Teen Wave | Teen Wave | 071 652 310 | V1/2/23 |
| Teck | Teck | 093 15131 | V1/2/22/23 |
| Teck | Teck | 093 15131 | V1/2/22/23 |
| Transylvania | Transylvania | 074 12166 | V1/2/23 |
| Trax-com Bts | Trax-com Bts | 041 585 573 | V1/2/3 |
| Troy | Troy | 009 16120 | V1/2/22/23 |
| Tug 1 | Tug 1 | 073 75776 | V1/2/22/23 |
| Tug 1 | Tug 1 | 085 73191 | V1/2/22/23 |
| Twilight Zone | Twilight Zone | 078 768 384 | V1/2/22/23 |
| Twilight Zone II | Twilight Zone II | 071 608 145 | Hrt |
| Uk Healthline | Uk Healthline | 062 72294 | V1/2/22/23 |
| Unsys Eks Bts | Unsys Eks Bts | 065 415 739 | V1/2/22/23 |
| Unsys Eks Bts | Unsys Eks Bts | 065 415 739 | V1/2/22/23 |
| Unsys Eks Bts | Unsys Eks Bts | 065 415 739 | V1/2/22/23 |
| Unsys Eks Bts | Unsys Eks Bts | 065 415 739 | V1/2/22/23 |
| V2/23 | V2/23 | 041 442 1800 | V1/2/22/23 |
| V2/23 | V2/23 | 041 442 1800 | V1/2/22/23 |
| Valetina's | Valetina's | 071 497 370 | Hrt |
| Vectra Systems | Vectra Systems | 0329 45264 | Hrt |
| Viking East Anglia Bts | Viking East Anglia Bts | 065 40947 | V2/23 |
| Village | Village | 081 414 701 | V1/2/22/23 |
| Vilag Fajne | Vilag Fajne | 081 414 701 | Hrt |
| Voyer Bts | Voyer Bts | 081 255 361 | V1/2/22/23 |
| White Lighting | White Lighting | 035 37259 | V2/23 |
| Whetnail | Whetnail | 040 620 360 | V1/2/22/23 |
| Wid Imagines | Wid Imagines | 011 303 420 | V1/2/22/23 |
| Widowmaker | Widowmaker | 011 303 420 | V1/2/22/23 |
| Waveranger Roswell | Waveranger Roswell | 0437 74337 | V1/2/22/23 |
| Womble Base | Womble Base | 091 975 96547 | V1/2/22/23 |
| Woozengen Bts | Woozengen Bts | 061 695 584 | V1/2/3 |
| Yuge Bts | Yuge Bts | 070 73548 | V1/2/22/23 |
| Zaus Bts | Zaus Bts | 0487 710487 | V1/2/21 |

Have a chat with the Gnome at Home

You want to log on to a colourful BBS that works viewdata mode, offers something for everyone and has various areas for different interests and chatlines, the Gnome at Home is probably an

The Gnome runs on several networked Bees under the watchful eye of Sysop Glyn Phillips. As well as a free guest line, it has multiple lines for subscribers. It's a pleasant sensation to get on-line and find someone who's already pouncing on

Gnome Facts:

A screenshot of a Commodore 64 computer's screen. The title bar reads "POKE - Commodore Editor - 30 - 14:38:13 (Unloaded) 0.02 RAM". The main window displays two columns of code. The left column contains: REM, POKE 16384, 1, POKE 16385, 1, POKE 16386, 1, and POKE 16387, 1. The right column contains: POKE 16384, 2, POKE 16385, 2, POKE 16386, 2, and POKE 16387, 2. To the right of the code is a vertical stack of memory dump windows, each showing a range from 16384 to 16400. The bottom right corner shows a menu with options like "File", "Edit", "Format", "Run", "Break", "Help", and "Exit".

TECH TIPS

Does your PC keep crashing? Is it a saint? Write to Keith Pomeroy's Tech

ries to Teen Tip, Broadford Place, 30 Monmouth Street, Bath BA1 5AA.



■ TIP! Sam Pulls

I would first like to congratulate you on an excellent magazine. (Thanks ... Ed)

I have a little tip for Amiga owners who have either a shortage of sound samplers or a shortage of cash to pay for a sampler.

First, you need some sampler software with cut and paste features (I use the Detel sampler, very underrated I think). There are many sample editors available throughout the public domain (17 Bit, etc., plug ends).

Then all you have to do is switch the file mode to RAW (if switching is required), then load any Soundtracker, M60 or SoundFX tune (uncompressed) and you will have the header for the tune, which contains all the samples, which you can now snap up and save as individual samples. Voila.

May I take this opportunity to ask any Jean-Michel Jarre fans to write to me?

Duncan Richardson, Stoke-on-Trent, Staffs.

I'm afraid your address got lost under the table so you'll have to be satisfied with seeing your name in print. By the way, did you know that MIDI man David Hickford of DHCP worked on the software for JMJ's laser harp at the Docklands extravaganza? No? Nor did I until he told me.

■ HELP! Offered

Just a short note to let you know that we are a Commodore Service Centre and will gladly help any readers who have problems in Ireland regarding computers or amateur radio equipment. Great mag, keep up the good work.

Hansom Communications, Santa Lucia, Ballykeelan, Parteen, Co Clare, Ireland.

What a sneaky way of putting an ad in Express. I've passed on your details to our Ad people and they'll be contacting you about some proper promotional stuff.

■ HELP! Choices

Having just sold my Spectrum Plus 2, I wish to upgrade to the next level of computer, my choice (mainly due to cost) would be the Atari STFM.

The main use would be for games and educational software for an eight-year-old. My main concern is that the STFM is, as computers go, rather old. I do not want to

pay out for this model and then find next year, or in the near future, that production ceases in favour of the STE, followed by the gradual drying up of software.

I was caught out buying the Dragon 32, and waited (luckily) to see how the SAM went. As you see I am looking to the future as well as now.

In terms of long term use would I be better off sacrificing my bank account and going for the Amiga 500?

P Blannin, Cirencester.

If I knew what Atari, Commodore, MGT or even IBM were going to do with their product lines in the next couple of years I would apply such prognostications abilities to the gee-gees and retire on the proceeds.

The STFM has a broad user base of software and even if they stopped making them now, there would be no shortage of available software. The Amiga is in the same position and the SAM is reincarnating itself back from an early demise. So any one of the three could fit the bill, depending on your bank balance.

In simple terms, look for a machine that does what you need and has the available software. That way if it does curl up its processor and die, you'll not be left with a machine and no programs.

■ TESTIMONIAL! Dixons

I read with interest your article on the type of advice and service offered by high street retailers. No doubt you will be inundated with sorry tales of poor service, so I thought I would put the other side.

I used Dixons on several occasions when I knew exactly what I wanted to buy. My first computer was a Spectrum Plus which was bought from Dixons in Nottingham. I used it for about six months with a black and white TV. When I got a colour TV I found that the computer still worked in black and white. I took it back to Dixons well outside the period when a shop would feel obliged to do more than send it back to the manufacturers. With very little persuasion they exchanged it for a brand new computer.

On another occasion I used Dixons in Derby to purchase a printer. After a couple of months it failed. I accepted that it would have to go back to the manufacturers for repair. A couple of weeks later, I contacted Dixons. The manufacturers had explained that the part was difficult to get hold of (it

was an Amstrad) and there would be a delay of up to eight weeks. Without any prompting, Dixons offered a replacement. In fact they did not have that model in stock and so gave me a new printer which was several models higher in the range!

I accept that a general electrical retailer is not qualified to give expert advice on computers, but as long as I know what I want – I will continue to shop where I get good support when things go wrong. I also get very good service from Digicom: of Milton Keynes with an ST related problem.

Paul Bates, Derby.

We've been quick enough to pounce when someone's naughty, so we ought to redress the balance when the boot's on the other clutch. I suppose tales of woe are juicer but it's nice to hear the up side from time to time.

■ TIP! Upgrade

In Tech Tips, Express 106, you told Richard Bladely that it is not possible to upgrade an Amstrad PC2086 to an 80286 machine. There is a way of adding an 80286 processor, thought not by a motherboard swap. Lancastrian International (1151/1160 Old St, Preston, Lancs 0772 200042/200088) have a limited supply of DACEASY expansion cards at £99 which should slip into a spare slot. Their ads claim that these cards will turn your XT into a 12MHz AT. You even get a free disk cache.

I believe that Amstrad, in its wisdom, decided to run expansion slots at 4MHz, so I would imagine this would mean that an upgrade of this sort will not run as fast as 80286 on a motherboard.

I have contacted Amstrad about the possibility of purchasing a PC2285 board to replace the board on my PC2086. Their answer wasn't very clear, so I am not sure whether they said "No" because it isn't feasible – or because they didn't want to see me.

I haven't purchased one of the above cards because all three slots on my PC2086 are full (fax card, scanner card, 2MB EMS, with a MIDI card and joystick card back in their boxes).

Is there any possibility that you might conjure up a Circuit City project to solve this problem for the thousands of people there must be who have used up all their expansion slots?

Frank Gilbert, Crawley, West Sussex.

On the odd occasion when we've looked at expansion card upgrades, the slow running problem with certain card slots (Amstrad isn't the only one) has cancelled out any gain from the use of a faster processor.

As well as the 2086, there are upgrades for the lesser Amstrad 1640 but until documentation on their running speed is available, we'll reserve judgment. After all, there would be no point in putting a 6.6 litre V8 engine in a car and then feeding it petrol with a teaspoon, would there?

If we can persuade one of the suppliers of these twiddlers that it's a good idea to test them, we'll give it some space in a future issue.

■ HELP! Software

I have an Atari ST and wish to program it to receive RTTY. I have the rest of the equipment to do this. What I have not got, and so far have been unable to discover, is a software program.

I would be most grateful if you could help.

J R Lemon, Aintree, Merseyside.

0782 335560 is the magic number that will help you out of that quandary. Goodman PD is one of the better sources of ST public domain and shareware programs.

■ HELP! Starman

I wonder if you could help me with something that has been bothering me ever since I bought an LC24-10 printer for my Amiga. Could you tell me where I can get hold of the little ROM cards with extra fonts that slot into the front on the printer, and also an automatic sheet feeder (I believe such a device does exist for the 24-10). What reminded me of these was your recent, excellent, article on 24 pin Printers – because the LC24-10 pictured had a ROM card plugged into it! A lot of ads feature the printer itself, and ribbons – but none mention any of the 'extras'.

Two other small points while I'm here. Why are you using more newsprint pages these days, I would have expected LESS of them with the recent cover price increase! And why don't you have a CompuNet ID? If you can lower yourself to having a Prestel MBX surely you can get a CompuNet one?!

Dave Spink, Arbroath, Angus.

Try Star on 0494 471111 (print or hot-line). As for your other points ...

The amount of paper and its type varies from issue to issue and is dependent on the content of the mag.

The MBSXes were inherited from other beings from the planet Tharg and are nothing to do with us, although I agree that admitting in public I have an affinity to Telecom is a bit off.

■ HELP! The price is wrong

Question: Where can I purchase (if possible) a sub £100 Sega GameGear, as I have heard (Console Zone; Express 104 and 105) that it only retails at 15,800 yen (£79) in Japan.

I would also appreciate it if you could please supply this information soon, as my birthday is coming up, and guess what I want for a present? Thanks

Jack Holborn, Northumberland.

If the beast sells at £79 in Japan, you can add another 15 per cent VAT to that and a further five percent of the resulting number as import tax. That comes to a tad over the hundred quid mark. Funny old world, innit?

■ HELP! Leads again

I am writing to you out of desperation to find an answer to my little problem.

I have an Atari ST and I have recently acquired an IBM Enhanced Colour Display monitor. I have tried to get the information I need to connect the two together from umpteen sources but to no avail. I assume that all monitors have a standard pin configuration and all I needed to do was to get a lead made up and my problem would be solved but apparently not. Yes, a

lead would work but nowhere I went to, knew IBM's pin configuration.

The plug on the monitor is a 9-pin type, the same as that used for the mouse and joystick on the ST. Can you help?

Mr A Short, Southampton, Hampshire.

The number that you require is 0992 584205. If there's anyway of doing the job with a simple piece of electric string, RSD Connections will know how. Alternatively, you could get the pin configurations from IBM and your Atari manual and either work it out for yourself or send it in and we'll do it for you.

■ HELP! Mad Macs

Following the AMAX 2 review in Express 104, it strikes me that lots of folk would appreciate a really informative review of the new AMAX II Mac emulator. Especially now that we have had a really interesting one. According to your review the Mac can handle colour properly and offers 24-bit colour.

I've read other reviews which have praised this kit but which have also failed to fully explain what you really need before the thing works a) fast and in colour, b) with really good resolution and c) with a large monitor. Will it work with a TV modulator? If you have an AMAX 2 plugged in to an A500, what slots do you use up and what does this mean that you CAN'T have?

Other reviewers mention that the emulator only gives you a small image in the middle of a screen yet Express says I can take advantage of big screen monitors'. Big? Black and white only? I am confused - especially by the picture. The Mac screens seem to have wavy fuzzy lines around them. Lastly how does it

compare to the Atan or Spectrum emulators?

These are the main questions I need answered, because I need to acquire a capable 'Mac' that will handle animation and multimedia. Obviously if I can save several thousand pounds from a warty grave then it has to be worth the candle. The real question is will I be lucky enough to have this printed/answered? I love your magazine but I could love it more.

Kate Harlowe, Cheshire.

The simple answer has to be, if you want to do all of those nice Mac things, buy a Mac. While AMAX and all the other emulators will allow you to run Mac software on an Amiga, if you need to use the Amiga as a productivity machine, use it as an Amiga. Anything else will be second best. Apple has cut great wedges of cash off the price of Macs recently and £575 will buy you an entry level machine, £1,500 will see a colour Mac on your desk and under £2,000 is enough to turn out a useful system.

■ HELP! Uni challenge

I require some help in buying a computer system to enable me to study with the Open University.

I know there are a variety of computers that fit the Open University specification, but which do I choose? I enclose the spec for you and I can probably go up to £1,500. Could you please list a selection of 6-10 in order of value and provide any information or articles published recently regarding the advantages or disadvantages of any particular models.

Microcomputer Specifications:

640K RAM

EGA, VGA or Hercules graphics and appropriate monitor.

Mono/colour monitor
Twin disk drives (3.5-inch)
Keyboard (84 key IBM PC/AT compatible or equivalent)

Serial port (parallel or serial)
Mouse (Microsoft compatible)
Printer (80 column, 100cps) with graphic screen dump capability
GEM (Graphics Environment Manager)

All machines must be able to run or use:
1) MS-DOS 2.1 or higher.
2) Epson/IBM compatible printer with 9-pin heads.

3) The mouse and printer or modem and printer must work simultaneously. All systems must be able to run unmodified IBM/PC versions of the following software:
GEM Desktop version 2.2 or higher
Lotus 1-2-3 (Lotus Corp) Version 2.01
PC Automator (Direct Technology) Version 2.2H
UCSD Pascal (PECAN) Version 4.2.2
Framework 2 (Aston Tate) Version 1.1

Stephen Foster, Liverpool.

A quick call to the OU on 0908 653972 brought the Help Desk Co-ordinator rushing to your aid. It would seem that the vast wealth of experience in student requirements leaves the OU unable to recommend a specific machine (ethics and all that). However, they were able to tell us that the Olivetti PCS series, Amstrad 2000 series and the sensibly priced Elonex range are ideal for students. I am glad to endorse that and state that given the option my own choice would be the Elonex (based on the high quality of Elonex review machines we've seen). ■

■ HELP! Dying Amiga

Since buying my Amiga A500 in December '89 I have had a lot of trouble. As I don't have much confidence in the staff at my local computer shop I would appreciate your opinion on my problems.

My original Amiga had to be returned to Commodore four times:

- After about three months I began to get a lot of read/write errors and 1Mb programs wouldn't work properly. After it was repaired I had no further loading problems with this Amiga.

- The keyboard began to lock up. This began to happen more and more often.

- The day after receiving it back it stopped working altogether. All it would do was flash the power light on and off.

After the fourth time I decided I did not want the same computer back again and I have recently received a brand new Amiga. The first disk I put in (Workbench), gave a read/write error and I now have very similar problems to those experienced with my first one. In detail these are:

- I often get read/write errors but only from disks that use a Workbench. All other disks work perfectly. My disks have been tested on another Amiga at the shop.

and there were no problems.

- When another 1Mb expansion was tested in my Amiga it loaded some programs that would not load before - but some that did load before wouldn't. There are still problems when the expansion is removed.

- I have noticed that sometimes a screen of black garbage flashes up before a Workbench screen appears. Does this mean anything?

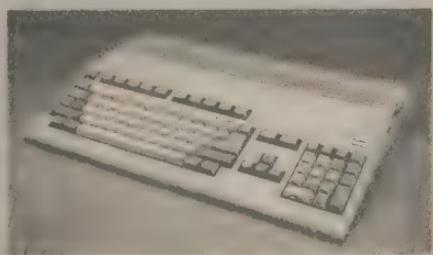
My local computer shop doesn't seem to think there is anything wrong with my Amiga. They have given me various reasons why these things may be happening including:

- The disks may have viruses on them? (I am very careful, and they worked on another Amiga.)
- It may have the E.C.S. fitted and not all programs are compatible? (It hasn't)

- It may have a slightly different version of Kickstart fitted?

- I must have a bad electricity supply at my home. (I don't see how this can be the reason because I use a surge protector - and the computer didn't work properly in the shop).

When I returned my Amiga to the



shop they changed the expansion and because there seemed to be an improvement they thought it had mended it.

I still think the computer must be faulty and I would appreciate your opinion on whether you think this is so. If there could be another reason, and most importantly, what I should do about the situation?

Paul Austin, Adlington Park.

Take the computer to your dealers and tell them that under the Sale of Goods

Act the article you bought from them isn't fit for the purpose for which it was intended.

The problems you have experienced are over and above what you should expect from any piece of kit and they should replace your machine without delay. Should they choose not to honour their obligations, drag them screaming into court to make an example of them, lest other scurvy vermin think they can treat Express readers with disdain. Or ask for your money back and shop elsewhere.

CIRCUIT CITY



The thought of hot solder and miniature components has put many people off the idea of electronic do-it-yourself but there's a way to learn about basic electronics without soldering - or the worry that the project may not work and will be a waste of money.

The £29.95, '130-in-one Electronic Project Lab' from Tandy, is a board with unconnected electronic components built into it. Spring-loaded coil connectors allow any of the components to be joined in any other by simply putting a wire in the connector at each end.

The board is split into sections with a different kind of component in each: diodes, switches, capacitors, resistors, integrated circuits, transistors, controllers, a digital display and photo-electric cell can all be combined to make a variety of working models. There are even transformers, terminals and radio circuits - and a Morse key, logic circuits and speakers complete the set.

Power is provided by six batteries producing nine volts, so it's safe to use. A 160-page book gives a good comprehensive guide to the Project Lab and its potential, and the simple instructions guide everyone from an absolute beginner to the seasoned electronic hobbyist through a series of interesting and informative projects.

When a project has served its purpose it can be disassembled without any damage to the components. One of the most useful purposes that I put the kit to was to build a simple circuit using the instructions. When I was sure that it worked, I duplicated it on a circuit board using new components and a soldering iron. Thus I was able to test an idea before it was constructed and if it didn't work, I had no laborious soldering to undo.

OUT OF THE BOX

With the Project Lab out of the box and sitting on the bench, the manual takes you gently through the procedures of installing batteries and the best way to attach wires to the coil terminals. There are some troubleshooting hints and a simple section on baring the ends of wires by stripping away the insulation.

Each component is described and its function explained. Some of the more complicated components and circuits have a schematic plan of what's inside them as well as a description of what they do.

The manual then tackles the task of building a first project. The projects covered in the book each have a simple wiring sequence. As each coil connection on the board has a number, it's a simple matter of following a series of numbers to connect the components together in the prescribed way.

This is a simple, foolproof method which ensures the project is completed quickly and accurately, but this

If you want to build your own electronic projects you first need to know what all the components do. Keith Pomfret looks at a simple kit that offers 130 solderless projects to the hobbyist beginner.

doesn't always offer the best route to comprehension.

It's a good idea when you're following the number sequence to look at what you are connecting to what. Try to understand why things are connected to each other. If you can grasp the rudiments of circuit design in this way, it will stand you in good stead for more complicated projects in the future.

The wiring sequence listing for the first project looks like this:

1-29, 2-30, 3-104-105, 4-28-124, 5-41-105, 27-88,
75-87-103-40, 115-42-119, 76-115, 121-122

In other words you connect a wire between terminal

make some of the projects on a circuit board as well. All of the components on the board are readily available from suppliers such as Tandy and Maplin.

Some of the more serious circuits demonstrate the way logic and components go together, but whatever circuit is attempted there's always an explanation of how, why and what. It's interesting that some of the transistor-based projects show how TTL (transistor-transistor logic) works. This is the basis of the simple digital system used to decide the colours in millions of TTL colour monitors.

Having a speaker and an earphone means that the



cols 1 and 26, 2 and 30, 3 and 104 and 105, and so on until you get to the end of the list.

The sequences are designed so that connections which could cause damage to the components are not made until the end. This is also a good rule when working on advanced jobs with solder. A further section on diagnostic instruments and good project practice precedes the first section of simple entertainment projects. These have little practical use but are a simple toe-dipping exercise for the beginner.

The electronic woodpecker, chirping bird, electronic cat and sonic fish-cafer caused my popularity to wane around the office. The first few projects in the book are illustrated with a circuit diagram, sequential connection plan and a plan view of the board showing the physical connections that need to be made. There is also a blank space for making notes for future reference.

Practice over, it was on to the more serious stuff. As the book progresses, the schematic is dropped and you have to manage with the sequence and a circuit diagram. At this stage, you should be ready to try to

project is able to demonstrate some quite interesting audio stuff too. The VCO or voltage-controlled oscillator is the basis from which all synthesisers have evolved and it's possible to build a simple VCO using the kit.

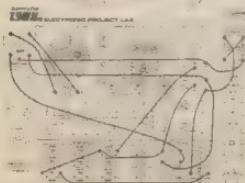
Later on in the book projects 126 and 127 offer practical uses. A rain detector and water level buzzer can help you design irrigation systems and even provide a failsafe on your water tank. By project 130 (three-step water level indicator) you should be well on the way to understanding what some of the electronic components in your household equipment do and ready to design and produce a few circuits and projects of your own.

More to the point, however, you'll also be ready to tackle some of the Circuit City projects coming up in the next few months! ■

USEFUL NUMBERS

Tandy 021-558 8101

Maplin 0702 554155



* First project: knocking together an 'Electronic Woodpecker'

MAIL ORDER

0908 564369

| | | |
|--|---|--|
| <p>Amiga A500 Screen Gems Pack £379 inc VAT & Next day Courier</p> <p>Screen Gems Pack Includes:</p> <ul style="list-style-type: none"> • Amiga 500 512K Keyboard with built in 1 Meg disk drive • Free TV Modulator worth £24.99 allowing you to use the Amiga with a normal TV • Joystick, mouse mat + 10 blank disks, mouse + mains plug • Amiga basic, Amiga extra's 13 workbench 1.3 PLUS Amiga step by step tutorial • With a further four new releases • Shadow Beast II, Back to the Future II, Nightbreed and Days of Thunder • Deluxe Paint II | <p>Amiga A500 Screen Gems Pack Extra £399 inc VAT & Next day Courier</p> <p>Screen Gems Pack Includes:</p> <ul style="list-style-type: none"> • Amiga 500 512K Keyboard with built in 1 Meg disk drive • Free TV Modulator worth £24.99 allowing you to use the Amiga with a normal TV • 10 free games PLUS software has a potential RRP of £200 • Joystick, mouse mat + 10 blank disks, mouse + mains plug • Amiga basic, Amiga extra's 13 workbench 1.3 PLUS Amiga step by step tutorial • With a further four new releases • Shadow Beast II, Back to the Future II, Nightbreed and Days of Thunder • Deluxe Paint II | <p>Amiga 1500</p> <p>The Amiga 1500 Personal Home Computer is the ultimate in Personal Home Computers for the whole family. Platinum Works - Integrated - Word Processor, Database and spreadsheet. Deluxe Paint 3 - the ultimate in paint packages. Populous and Sim City - Strategy and Art strategy games. Chess - the chess programme amongst all chess programmes. Their Finest Hour - The battle of Britain brought to life in a technical flight SIM. A1054's stereo colour monitor to get the best from your Amiga. The Amiga 1500 has been designed around the already popular Amiga 500, but with hardware facilities that would put any mid range business machine to shame.</p> <p>Please call for further details £1049.00 inc VAT + next day courier service.</p> |
| <p>AMIGA A500 CLASS OF THE 1990's BUSINESS + EDUCATIONAL PACK £499.00 inc VAT & next day courier</p> <p>FEATURES</p> <ul style="list-style-type: none"> • Amiga 500 TV Modulator • Midi Interface Software • King Words II wordprocessor • Page Setter DTP • Super Base Personal Database • Maxplan 500 spreadsheet • Amiga Logo BBC Emulator Deluxe Paint II • Mouse mat 10 Blank Disks and disk wallet | <p>AMIGA A500 SOUND & VISION PACK £399 inc VAT & next day courier</p> <ul style="list-style-type: none"> • Amiga 500 512K Keyboard with built in 1 Megabyte Disk Drive • Free TV Modulator worth £24.99 allowing you to use the Amiga with a normal TV • Deluxe Paint II Graphics Package • Shadow of Beast II horizontal scrolling games software • Back to the Future film action software • Nightbreed state of the art graphical arcade action • 10 free games worth £200 • Free joystick, mouse mat & 10 blank disks • Amiga Basic Amiga Extras 1.3 Workbench 1.3 PLUS the Amiga Step by Step Tutorial • All leads, manuals PLUS Mouse and Mainsplit • PLUS Days of Thunder serious fast action games software • Deluxe Paint II | <p>HALF MEGS - Quality four chip ram board with complete utility disk support with software on/off switch.</p> <p>£34.99</p> |
| <p>MONITORS</p> <ul style="list-style-type: none"> • Commodore Amiga A1084 Stereo Monitor inc lead £269.00 • Philips CMT883 stereo colour monitor inc lead for ST or Amiga £259.00 • 4096 coloured stereo monitor with first class reproduction including leads for ST & Amiga £259.00 | <p>Naksha Mouse - Quality micro switched, accurate Amiga ST £26.00</p> <p>Contriver Mouse - The perfect direct replacement mouse for the ST or Amiga £18.00</p> | <p>PRINTERS</p> <ul style="list-style-type: none"> • Star LC24 200 24PIN including ST/ Amiga £259.00 • Star LC200 including lead for ST/ Amiga £210.00 • Star LC10 colour including interface lead for ST/Amiga £219.00 • LC10 - The most popular letter quality printer on the market only £219.00 with all Amiga + ST-leads |

Tel: 0908 564369, Fax: 0908 560040

MICROSMART 24HR HOTLINE (24 HRS) TELEPHONE 0908 564369

| TITLE | COMP | PRICE |
|----------------------|------|-------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| TOTAL COST £: | | |

Have you ordered from us before? YES NO

NAME: _____

ADDRESS:.....

TEL NO:-

Please send this to Microsmart, 125 High Street, Stony Stratford,
Milton Keynes, MK11 1AT

Please send this

Please send this

Please send this

Cheat! ST • The South West Software Library • 1116

Fed up of being beaten time and time again by those blasted games? If you're a keen gamester but just can't get off the first level, then maybe you should cheat!

Cheat! is a disk magazine for the ST which lists hints, tips and downright underhand ways to get the better of those annoyingly difficult games so that you can see your name on the high score tables.

It's compiled by someone known only as Sid, but new contributors are welcome. So if you've uncovered a cheat which Sid doesn't know about, then there's an address where you can write in with your inside knowledge.

Each issue of *Cheat!* contains around 40 or 50 cheats. Softdisk's disk 1116 contains the first three issues. There are well over 100 naughty ways to win listed in total, so there should be something on at least one of the games in your own collection.

Douglas Rockmore • ST • The South West Software Library • 1213

One of my most favourite ever computer games is *Boulderdash*. It's an old 8-bit game, that was extremely popular in the early to mid eighties. Its graphics weren't outstanding, even when you consider its age. In fact they were pretty atrocious. What it did have was playability – and bags of it.

THE PD COLUMN

Among the goodies from the world of Public Domain to come under the scrutiny of Adam Waring this week are a fun update of an 8-bit classic and a disk magazine packed with all the cheats you'll ever need.

Now ST owners can see what they have been missing. Douglas Rockmore is a 16-bit interpretation of the old classic. The object is simple – collect the diamonds on the screen and make your way to the exit.

The game is set in large underground caverns filled with mud, rocks and, of course, those diamonds. The problem is that the rocks are held up by the mud. If you remove the mud (which you do simply by walking through it) then the rocks will fall. And should they fall on your head...well, I'm afraid you're dead.

There are also guardians in the caves. These creatures follow preset patterns along the walls of the maze. For the most part they're safely trapped away in an enclosed area of the maze, but it's usually necessary to let them out to complete the level. That's where the fun really starts. There are plenty of other features to trick and trap you. But I'll leave those a secret for now.

Each cave forms a tough challenge to overcome. The diamonds are situated in difficult to reach places around the maze, and it takes a good deal of brain-power to work out exactly how to obtain them.

But it's not just a brain game, as quick reactions are important too. Sometimes releasing a rock which will come tumbling down right on top of your little man will be unavoidable, and you need to be lightning fast to dodge out of the way.

There are ten levels to the game, and you can tackle them in any order you wish; if you get stuck with one particularly nasty puzzle then you can easily attempt another in the meantime. However, the incredibly addictive quality of the levels means that when you are killed you just have to go back and try it another way.

The graphics stay true to the original spirit of the *Boulderdash* games – they're

as crap as ever. The ST's graphical supremacy hasn't been used to update the visuals of the game – and it's a good thing too if you ask me.

Nice touches have been retained, though. If you don't move your character for a couple of seconds, he responds by tapping his foot, as he walks patiently for your instruction.

The scrolling is smooth, but a bit on the slow side. It's quite easy to move off-screen and out of view. You then need to wait a couple of seconds for the scrolling to catch up with you. The game remains incredibly addictive, however, and should keep you going for many hours.

When you do eventually become tired with the game (it could happen, you know), you can always rid yourself of it simply by pressing the reset button. But wait! Your computer doesn't revert back to the desktop; instead another game suddenly and unexpectedly appears on the screen.

Lorenzo's Domain Amiga P.D. & Shareware

OUT NOW NEW MEGA MAGAZINE/CATALOGUE DISK
Free with every order or 75p without order

AMIGA GAMES

| | |
|---------------------------------------|--------|
| Indyapolis 500... | £19.99 |
| The Spy Who Loved Me... | £19.99 |
| Out of Space... | £19.99 |
| James Bond... | £19.99 |
| Badlands... | £15.99 |
| Conqueror 2... | £15.99 |
| Powerhouse... | £15.99 |
| Populous... | £19.99 |
| Populus... | £19.99 |
| Kick Off 2... | £27.95 |
| Shadow of the Beast 2... | £29.99 |
| Midnight Resistance... | £19.99 |
| Shadow Warriors... | £19.99 |
| Shattered... | £19.99 |
| Lost Patrol... | £19.99 |
| Death Star Under Operation Stealth... | £19.99 |
| Turkian... | £15.99 |
| Rebel Belta... | £23.99 |
| Midwinter... | £23.99 |
| Sons of the-Based... | £23.99 |
| BSS-Java Seymour... | £18.99 |
| Battlementer... | £23.99 |
| The Immortal... | £19.99 |
| Back in the Future 2... | £19.99 |
| Gladiator... | £19.99 |
| Heroes... | £24.99 |
| A500 1/2 Meg Upgrade... | £34.95 |
| A500 1/2 Meg Upgrades with clock... | £34.95 |
| A500 1/2 Meg upgrade... | £27.99 |
| External Disk Utilities... | £19.99 |
| Harddrive Guru... | £25.99 |
| Stereo Sound Systems... | £35.95 |
| DataVuk (Null Modem) Cables... | £5.95 |

ONE PD DISK FREE WITH
EVERY 10 ORDERED

No membership. FREE catalogue with every order. When you choose from Lorenzo's Domain you can be sure of getting the best VIRUS FREE P.D. around. We aim to have your order back in the post within 24 hours. Delivery on PD disks £5.00 on total order. Delivery on other items £1.50 on total order. Send your order with a cheque or PO to:

LORENZO'S DOMAIN

30 COLQUHOUN SQUARE, HELENSBURGH, G84 8AQ

AMIGANUTS UNITED

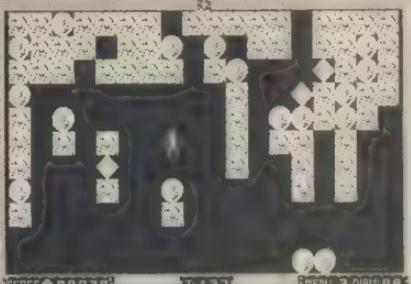
169, DALE VALLEY ROAD, HOLLYBROOK,
SOUTHAMPTON, SO1 6QX

Tel: 0703 785688 10am - 6pm Mon to Fri

| | |
|---|-------|
| FREE DISKS + FREE PROGS + FREE MEMBERSHIP | £4.00 |
| 576: ALL NEW STAR TREK AUTHORIZED English instructions | £4.00 |
| 576: EDUCATION A disk backed with prose for youngsters | £3.00 |
| 576: GAMES FOR KIDS 1 & 2 FOR YOU! | £3.00 |
| 640: GAMES CLASSIC SET. A MUST for the Amiga | £2.00 |
| 680: WORD SQUARE SOLVER. Solve magazine puzzle squares. | £2.00 |
| 700: D-COPPER EXCELLENT copier program, with VERTIX and MORE | £3.50 |
| 700: JEWELRY DESIGNER. A LICENSED DATABASE PROG | £3.50 |
| 700: 3 GAMES BY PC SOFTWARE INC. TURBO TURTLE, MARBLE SLIDE, | £2.00 |
| 728: UTILS THE Famous BOBBY-SHOP (160K+41+ others) | £2.50 |
| 740: MED V2.13 A COMMERCIAL quality version of this FANTASTIC music utility, a host of new additions, including synth sounds | £2.50 |
| 741: MED V2.13 A COMMERCIAL quality version of this FANTASTIC music utility, a host of new additions, including synth sounds | £2.50 |
| 741: MED V2.13 A COMMERCIAL quality version of this FANTASTIC music utility, a host of new additions, including synth sounds | £2.50 |
| 741: TWO DISKS, packed with extra examples & advice on bugs. | £5.00 |
| 741: Celeste Surfin in 75 great songs, Great loading screen | £1.50 |
| 750: Professional Soundtracker/Sampler V3. (with docs) | £2.50 |
| 750: TURBO TURTLE. A LICENSED GAME, 160K+41+ others | £2.00 |
| 750: MARBLE SLIDE. A LICENSED GAME, 160K+41+ others | £2.00 |
| 750: UTILS THE Famous BOBBY-SHOP (160K+41+ others) | £2.50 |
| 750: RAYTRACER SUITES HOW'S IT? KICKER EXCELLENT! (1 MEG) | £1.50 |
| 844: NEW UTILS FROM KERIENS, Includes Government. A MUST! | £0.50 |
| 855: PUSSY INNERSHED. This is a real FUN game for all ages | £0.50 |
| 864: MED PRINTER. Want to print your own music/picture/music progs? This will even work with MED music modules. A MUST! | £0.50 |
| 864: MED PRINTER. Want to print your own music/picture/music progs? This will even work with MED music modules. A MUST! | £0.50 |
| 864: MED PRINTER. Want to print your own music/picture/music progs? This will even work with MED music modules. A MUST! | £0.50 |
| 864: MED PRINTER. Want to print your own music/picture/music progs? This will even work with MED music modules. A MUST! | £0.50 |
| 877: 1 ACROSS & DOWN Crossword program. A disk with a glossary with EIGTH-17 different crosswords for you to play. A new data disk will become available approx every Month. 2 DISKS AT | £6.00 |
| ACC 1-4: The first compressed issues of a great disk for coders, even if you are not a coder, you will find this one, if you want to learn assembly language, then this is FOR YOU | £1.50 |
| ACC 1-4: INTO CODING OR WANT TO LEARN? THEN THIS IS FOR YOU | £1.50 |
| ACC 1-4: The first compressed issues of a great disk for coders, even if you are not a coder, you will find this one, if you want to learn assembly language, then this is FOR YOU | £1.50 |
| ACC 5: PACKED WITH SOURCE, HINTS/TIPS FROM MANY OF THE WELL KNOWN PEOPLE ON THE AMIGA SCENE TODAY. A GREAT WAY TO LEARN | £3.00 |

(6 & 7 Now available. ACC discs are £3.00 each issue.)

ACC DISKS ARE LIKED TO AND ONLY AVAILABLE FROM AMIGANUTS. OVER A THOUSAND DETAILED PROGS ON THE MAIN CATALOGUE DISK £1.00



• Douglas Rockmore, available for the ST, is an update of the old classic Boulderdash which retains many of its endearing original features like the dodgy graphics.

This new game is reminiscent of the early arcade game Galaxians. An attacking force of aliens weave its way around the top of the screen splitting laser fire. Your little fighter has to shoot the lot of them out of the sky as they make their swooping attacks at you. The background is a scrolling sheet of stars, and the graphics are tiny. It's pretty simple stuff, but a welcome bonus tagged onto the main game.

Douglas Rockmore is a Budgie licencedware game. That means that for each copy of the disk sold, a small royalty goes to the programmer. Because of

this, the price structure is different to the library's normal prices at £2.95.

PD NEWS

The Best in the West The latest catalogue from the South West Software Library, one of the biggest PD libraries for the ST, is available now and it's absolutely free.

Catalogue number six boasts nearly 50 per cent more titles than the previous edition. The 36 page A4 size newsletter has hundreds of utilities, games, graphics and WIP/DTP programs listed amongst the 1,300 strong collection.

The sections are clearly laid out and it's easy to find what you want. A handy key has symbols that denote whether the disk is suitable to run on your machine (mono monitor only; one Mb required; not STE compatible - that sort of thing). There is an index at the back that lists programs and disks alphabetically to make it even easier to find what you're looking for.

You can obtain a copy of the catalogue by sending a large SAE to the library. Alternatively, request one with your order and the Southerlies will oblige. You should write to: The South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD.

Budgie. Licencedware can be found among the catalogues of many public domain libraries. It isn't public domain though - instead it's sold like 'normal' software, only at very cheap prices.

With the 16-bit market concentrating predominantly on full price releases, programmers of good - but nevertheless budget quality - software have found it difficult to find publishers to market their games.

It is equally difficult for the programmers of such products to 'go it alone'. The expense of having games packaged, sorting out distribution, providing the necessary profit margin and so on makes it impossible to get this software into the normal retail channels.

What was needed was a cheap and effective distribution method, that could attract a wide buying audience. What better medium than the public domain library?

For years now they have been selling software for little more than the price of a blank disk, and have become well known to the public through word of mouth and adverts in the computing press.

So that's what groups like Budgie are doing. They have banded together and come to agreements with PD libraries. Their software now appears alongside PD software in libraries' catalogues.

The programs are bought in the normal way, but a percentage of the cost of the disk goes straight to the programmer who worked so hard in the first place, as with the Douglas Rockmore game I described earlier. What could be fairer than that? ■

WHERE TO GO

The South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD. The SWSL can supply all types of software for your ST. Each disk will set you back £3. Send a large SAE for the latest edition of the library's bumper catalogue.

PD & SHAREWARE who do you get yours from?



There are many PD libraries around but do they offer you...
 ★ Huge collection, thousands of programs on over 3000 disks
 ★ Same day service - 1st Class post - GUARANTEED
 ★ Knowledgeable staff on hand (no phone after six and ask for fred!)
 ★ Three years experience collecting and distributing PD &
 Shareware to satisfied customers all over the world.
 ★ Send £1.00 for catalogue - free with order - please request and
 state MAKE of computer CLEARLY.

AMIGA

surprise over 800 disks in our collection, including Presto, Amiga, AMIGUS, Paradox, etc. Our own SOR collection is so good other libraries stock them now and of course we are exclusive distributors of the famous UGA disks. All are auto-boot, menu driven and come with a detailed manual in the best collection! We also run an Amiga Club, ask for details.

IBM PC

(and compatibles)

Theory of the best shareware, Public domain and shareware programs in our current catalogue, all available on either 3.5" or 5.25" format, if ordering (opposite) state which. Whatever type of program you may require, we've probably got it.

24 Hour orderline on

0705-266509



ATARI ST

We currently stock over 800 disks full of PDV Software in our new range, containing every imaginable type of program. Choose from ALL the Public Domain, not just "a selection". If you are new to ST then why not join "Clubville", our popular user group, £6.50 gets you news, tips, offers, special prices on goods, 5% off books/CD ROMS.

MEGA PACK - £19.50 (£14.50)

5 PD disks + 5 blank disks

plus a Library case

Selection of current popular titles,

INTRO DISK - £1.50

(Atari or Amiga only)

VIRUS KILLER DISK - £1.50

(state machine clearly)

(price is for 3.5" disks, add postage)

SOFTVILLE

Unit 5, Stratfield Park,
 Electra Avenue, Waterlooville,
 Hants. PO7 7XN

SHAREWARE IN YORKSHIRE

Pack or single programs: -
 All IBM format 5.25 or 3.5
 Packs include: - Autocad Utilities, D
 BASn, Clipper, Turbo Pascal, Turbo-C
 Quick BASIC, Turbo-BASIC,
 Wordperfect-Tools, Symphonny Tools,
 Ventura-Publishing, MS-Windows,
 Programming Tools

All our program packs 1/2 price
 until December 20th

New Amiga & Atari lists

+ MANY MANY MORE

Details:

SGJ SYSTEMS,
109 MILLFIELD LANE,
TANG HALL, YORK
YO3 0JP

TEL: 0904 430320/415246

* HARDWARE PRICES ON REQUEST *

OUTRAGEOUS COMPUTERS WANTED!

**WIN
£50**

We will be running a series of features on readers' computers, so we need your help! You could see your machine in print and win a prize...

* Have you got an old, outrageous or customised machine? Then we want to hear from you.

CLASSICS

Qrics, Enterprises, Video Genies, we love 'em. We are planning a major feature on some of computing's more elderly residents and we'd love to hear from anyone out there still using their PET or amazing Atom.

Send us a picture and details on what you are doing (or have done) with the machine and you could be in line for a prize.

BY THE WIRE

Every computer owner who knows how to use a screwdriver and a soldering iron seems to use them to attach all manner of gizmos to the back of their machine. We want to see your best efforts: what have you made a computer do with a couple of transistors and some Veroboard? A satellite link? Robot control? An oven timer? A prize awaits the best or most amusing.

CUSTOM KIT

You start with a simple 8-bit. You add more memory. You beef up the processor. Add another disk drive. And a new box. Now a hard disk. And a MIDI interface. A CD-ROM. A colour monitor. Before you know it your Spectrum's become a NeXT. How far has your machine gone? We want to see pictures and specifications of the most over-the-top customised machine in Britain.

ON THE CHEAP

Express readers love a bargain; you only have to see how many reader ads we get a week to work that out! But who has got the best deal? Did you pick up your PC for a ton? Or get an outrageous rate on an Amiga? We want to know about the best bargains you've ever seen (not just computers but peripherals and software too) for a feature on cut price computing.

WHAT'S THE USE?

Computers aren't just for playing games; there are hundreds of more serious uses you can put one to, and some off-the-wall ones as well. So if your CPC is doing the air traffic control for Heathrow or running the reactor at Sizewell A then drop us a line.

If your computer is a bit unusual, drop us a line with the details and a picture to: **Outrageous Machines, New Computer Express, 30 Monmouth Street, Bath BA1 2BW.** Include a stamped self-addressed envelope if you want your pictures back. The most amazing entry in the five categories we receive by January 20 will each win a brand new £50 note.

24-HOUR SERVICE
OPEN: MON - FRI 9.00 - 5.30
SATURDAY 10.00 - 2.00

SEIKOSHA SL92
14 PIN 42K BUFFER 9 FONTS
£299 INCLUDES ON-SITE
WARRANTY

Business Technology Centre

PHONE OR FAX: 0282 831900

NON-IMPACT PRINTERS

£

| | | |
|------------|---|-------|
| SEIKOSHA | OPI 05 LED (desktop size, takes legal paper) | 1299* |
| STAR | LASER 8 | 1179* |
| STAR | LASER 8 DUAL BIN | 1599* |
| H. PACKARD | LASERJET II | 1199* |
| H. PACKARD | LASERJET III | 1299* |
| OLIVETTI | PG 306 | 899* |
| CANON | BJ130 INK JET | 519 |

ONE YEAR ON-SITE MAINTENANCE IS INCLUDED IN THE PRICE OF ALL THE ABOVE PRINTERS MARKED WITH A *

A FULL RANGE OF TONERS, PTONS, MEMORY CARTRIDGES, INK CARTRIDGES AND OTHER ACCESSORIES ARE STOCKED - PLEASE CALL FOR FURTHER DETAILS.

DOT MATRIX PRINTERS

| 9 PIN 80 COLUMN | drift/lnq £ |
|------------------------------|-------------|
| STAR LC-10 | 144/86 125 |
| STAR LC-10 colour | 144/86 166 |
| STAR LC-10 colour comm 64 | 144/86 166 |
| CITIZEN 120D PLUTON | 120/25 105 |
| CITIZEN 120D PLUTON COMM | 120/25 105 |
| CITIZEN PRODOT 9 | 200/90 265 |
| SEIKOSHA SP2000 (21k buffer) | 200/90 199 |
| SEIKOSHA MP1350 | 300/50 359 |
| PANASONIC KXP 1180 | 192/36 139 |
| MAN TALLY MT 111 | 130/26 104 |
| OLIVETTI DM 100SPR | 200/90 119 |
| EPSON LX 400 | 180/90 135 |

9 PIN 136 COLUMN

| STAR LC-15 | 180/45 255 |
|--------------------|-------------|
| CITIZEN PRODOT 9 x | 300/60 345 |
| PANASONIC KXP 1592 | 216/45 255 |
| SEIKOSHA MP5350 | 300/50 499* |

24 PIN 80 COLUMN

| STAR LC24-10 | 170/57 195 |
|---------------------------|-------------|
| CITIZEN SWIFT 24 | 192/64 239 |
| CITIZEN PRODOT 24 | 200/60 369 |
| PANASONIC KXP 1124 | 192/63 219 |
| SEIKOSHA SL32 (2k buffer) | 240/80 299* |

24 PIN 136 COLUMN

| STAR LCX24-15 | 200/67 325 |
|---------------|-------------|
| STAR XB24-15 | 240/80 510* |

*ALL DOT MATRIX PRINTERS MARKED WITH A * INCLUDE A ONE YEAR ON-SITE MAINTENANCE CONTRACT.

A ONE YEAR ON-SITE MAINTENANCE CONTRACT IS ALSO AVAILABLE FOR MOST OTHER DOT MATRIX PRINTERS - ONLY £16.

A FULL RANGE OF SHEET FEEDERS, TRACTORS, ACCESSORIES AND CONSUMABLES ARE ALSO AVAILABLE FROM STOCK - CALL FOR DETAILS.

SWIFT 24 COLOUR
4 PIN PRINTER INC. COLOUR KIT
£269

TERMS

ALL PRICES EXCL. VAT.
PRICES AND SPECIFICATIONS SUBJECT TO CHANGE
WITHOUT NOTICE OR LIABILITY.
ALL ORDERS TO CONFIRM BEFORE ORDERING.
STRICTLY CASH WITH ORDER.
ACROSS, VISA AND AMERICAN EXPRESS WELCOME.
FORTS, CHEQUES AND BANKERS DRAFTS
NOT ACCEPTED.

OFFICIAL ORDERS FROM EDUCATIONAL AND GOVERNMENT ESTABLISHMENTS, CORPORATES AND PLC'S & WELCOMED.

DELIVERY

ALL GOODS NORMALLY DESPATCHED WITHIN 24 HOURS FROM RECEIPT OF CLEARED PAYMENT -
NO STOCK TO HOLD.
PC'S AND LASERS £15.00 NEXT DAY DELIVERY
OTHER LARGE ITEMS £10.00 NEXT DAY DELIVERY
SMALL ITEMS £5.00 4 DAY DELIVERY

WARRANTY

ALL GOODS CHART MANUFACTURERS WARRANTIES,
WHICH ARE AVAILABLE ON MOST DOT MATRIX PRINTERS AND PC'S - CALL FOR DETAILS.
TECHNICAL SUPPORT PROVIDED.

Goods supplied for sale subject to our standard terms and conditions of sale - available on request.
WE STOCK MANY MORE PRODUCTS - CALL FOR DETAILS.
LARGE STOCKS OF FLOPPY DISKS AND RIBBONS CARRIED.



NON-IMPACT PRINTERS

£

| | | |
|------------|------------------|-------|
| STAR | LASER 8 | 1179* |
| STAR | LASER 8 DUAL BIN | 1599* |
| H. PACKARD | LASERJET II | 1199* |
| H. PACKARD | LASERJET III | 1299* |
| OLIVETTI | PG 306 | 899* |
| CANON | BJ130 INK JET | 519 |

ONE YEAR ON-SITE MAINTENANCE IS INCLUDED IN THE PRICE OF ALL THE ABOVE PRINTERS MARKED WITH A *

A FULL RANGE OF TONERS, PTONS, MEMORY CARTRIDGES, INK CARTRIDGES AND OTHER ACCESSORIES ARE STOCKED - PLEASE CALL FOR FURTHER DETAILS.

OLIVETTI PG306

LASER PRINTER
INCLUDES ON-SITE
WARRANTY

£899

PLOTTERS AND SCANNERS

£

| | | |
|--|---------------|-------|
| HITACHI 681 | AA/AV PLOTTER | 520 |
| HITACHI 674 | AA/AV PLOTTER | 2149* |
| (includes one year on-site warranty) | | |
| PANASONIC FX-RS055 | SCANNER | 919 |
| (with 16 card, cables, IMAGE AND OCR software) | | |
| NISCAN | HAND SCANNER | 139 |
| NISCAN | OCR software | 189 |

DRIVES

£

| | | |
|---------------------|--------------------------------|-----|
| CITIZEN QSD0 05A-WD | 5.25" 720K IN 5.25" KIT | 59 |
| CITIZEN QSD 39C-WD | 3.5" 1.44mb IN 5.25" KIT | ■■■ |
| CITIZEN QSD 76A-WD | 3.5" 1.4mb IN 5.25" KIT | ■■■ |
| INTERNAL | 5.25" 1.3mb | 59 |
| INTERNAL | 5.25" 360K | 69 |
| JAVELIN | HC20 | 185 |
| JAVELIN | 20mb XT HARD CARD | 185 |
| JAVELIN | 20mb XT HARD CARD | 199 |
| FILECARD | HC40 40mb AT HARD CARD | 229 |
| KYOCERA | KC 2080 | 138 |
| KYOCERA | 20mb XTAT DRIVE, 3.5" | 138 |
| KYOCERA | KC 3080 | 158 |
| KYOCERA | FRAME | 5 |
| KYOCERA | 5.25" kit for 3.5" hard drives | 5 |

DRIVE CONTROLLERS AVAILABLE - CALL FOR DETAILS.

CABLES AND ACCESSORIES

£

| | | |
|---------------|--------------------------|-----|
| PRINTER CABLE | 1.8 metre | 8 |
| PRINTER CABLE | 3.0 metre | 9 |
| SERIAL CABLE | 1.8 metre | 10 |
| T SWITCH | 2 way serial | 18 |
| T SWITCH | 2 way parallel | 18 |
| T SWITCH | 2 way serial crossover | ■■■ |
| T SWITCH | 2 way parallel crossover | ■■■ |
| BUFFER | 64K m-line | ■■■ |

ACORN A3000

1MB RAM KIT
£89

Business

Technology Centre

HOLE HOUSE FARM, BURNLEY RD, CLIVIGER, LANCS, BB11 3RF

Tel. & Fax: 0282 831900 (24 HOURS)

COMPUTERS

ALL OUR COMPUTERS INCLUDE A MONITOR.

COMMODORE

ALL MODELS INCLUDE ONE YEAR ON-SITE MAINTENANCE

| MONO | CGA | VGA | VGA MONO COLOUR | E | £ |
|------------|-----|------|--------------------|-----|---|
| PC 10 SD | 485 | 615 | 635 | 725 | |
| PC 10 DD | 535 | 665 | 685 | 775 | |
| PC 20 HD | 620 | 755 | 845 | 945 | |
| PC 30 HD20 | | 967 | 1128 | | |
| PC 40 DH40 | | 1229 | 1379 | | |

ALL MODELS INCLUDE ONE YEAR ON-SITE MAINTENANCE

| MONO | VGA | VGA MONO COLOUR | E | £ |
|------------------|-----|--------------------|------|---|
| SPC 3000 SD | 483 | 589 | 789 | |
| SPC 3000 HD | 569 | 659 | 839 | |
| SPC 3000 HD20 | 739 | 839 | 1039 | |
| SPC 6512 DD | | 8119 | | |
| SPC 6512 DD HD40 | | 1109 | 1309 | |

ALL MONITORS INCLUDE ON-SITE WARRANTY

| MONITOR | HYUNDAI 16TE | HYUNDAI 286X |
|---------|--------------|--------------------------|
| | £419 | £1099 |
| | MONO XT | HD 40 AND VGA MONITOR |

HYUNDAI STOCK

SHARP 8041 & 8081 386 LAPTOPS - CALL FOR PRICES.

PORTABLES

SHARP 4502 DD 789

SHARP 5541 286 2099

SAMSUNG S200 286 HD32 1707*

(includes on-site maintenance)

NOW IN STOCK

SHARP 8041 & 8081 386 LAPTOPS - CALL FOR PRICES.

THIS IS ONLY A SMALL SELECTION OF THE PCs THAT WE SELL - CALL FOR FURTHER DETAILS.

SHARP 5541

HD 40 286
LAPTOP
£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP

£2099

SHARP 5541

HD 40 286
LAPTOP



* *Flames of Freedom* features new fractal landscapes, making the original *MidWinter* look distinctly out-dated.

Christmas might well be flooded with shoot-'em-ups, beat-'em-ups and platform games but prospects for the post-Christmas period are promising if the plans of programming team Maelstrom are anything to go by. Its last game was *MidWinter*, released in March, and since then it's been busy working on a follow-up. *Flames of Freedom* (as it's now been called) is on schedule for a February release on ST and Amiga formats with a PC version following a month or so later.

The game bears only a slight similarity to the original *MidWinter*. One of the biggest differences is that the snow has melted so that the landscape is green rather than white. Instead of being played out on a single island, the game now spans an entire map of islands and each one can be tackled individually. The ultimate objective is to seize enough islands to prevent the enemy brigade from moving its way across the map. To take an island you first need to solve a mission specific to each island – finding someone or blowing up a building, for example. These missions differ depending on the strategic position of the island.

The appearance of the game is remarkably similar to the original *MidWinter*. 3D polygon landscapes are employed in the new game, effectively shaded and detailed to give a realistic feel to the action.

Whereas *MidWinter* 1 never let you to see people or vehicles (they were always located inside buildings), this new game has resolved that problem by presenting them as shaded polygons. To travel around the landscape you have various means of getting around

ranging from parachutes and jet-skis to jeeps and straightforward walking.

A series of animated sequences which present the story gives the game a feeling of continuity. For example:



if you get thrown into jail you can bribe your way out, fight or choose to seduce your captor. If you select the wrong option your head is booted in and this event is presented through a short comic strip-style sequence.

Fractal landscape maps, depth of gameplay and intense attention to detail are the added extras which make this look like a potential chart-topper throughout

spring. Still, at an astonishing £30 you expect something special.

A STUNNING RIDE

In the run up to Christmas, Domark had planned to release *Hard Drivin' 2* and *STUN Runner* in a bid to scale the charts and make heaps in the big Christmas spending spree. Unfortunately, both have been delayed and Domark is in a mad rush to release the games before Christmas.

STUN Runner is based on the futuristic arcade storm which puts you in the middle of a trash can which then flies at great speed through tunnels. In the arcade game it was the amazing speed of the twists and turns in the coloured tunnels which made it such a hit. If the programmers have managed to maintain that speed in the home micro versions then we have something very special in store.

Hard Drivin' 2 is the follow-up to Domark's '89 Christmas bid *Hard Drivin' 1* (which eventually came out after Christmas). The game looks very similar to the original *Hard Drivin* game except that there are three new tracks incorporated. One of the criticisms with the original *Hard Drivin* was that there were too few tracks to play on. This problem has been resolved in the follow-up by the addition of a track designer. This enables you to create your own tracks, piecing together stretches of straight road, curves and banks to produce a personalised riotous course.

If you enjoy the idea of playing against a friend, *Hard Drivin' 2* also comes with a datalink option. This enables you to link your ST to an Amiga or PC (or vice versa) and compete on the same track as your friend.

Unfortunately, the German programmer behind *Hard Drivin' 2* went down with chicken pox just before the game was supposed to be completed so the planned pre-Christmas release had to be delayed until the new year.

Versions of *Hard Drivin' 2* are due out on ST, Amiga and PC formats just after Christmas. All 16- and 8-bit versions of *STUN Runner* are scheduled to appear by the time you read this. ■

This week I have some top tips on completing *Operation Stealth*, Delphine's follow-up to the hit game *Future Wars*.

When the game begins go to the newspaper stand and examine the return coin slot. Use the coin you find in coin slot. Now head straight for the toilet room and operate the briefcase. Then take the pen and the American passport. Operate the calculator and take the unused passport. Operate the up arrow button until the correct passport appears, then use the unused passport on opening. Press the red button and operate the briefcase. Go to the passport control officer and use the passport on the passport controller. Go to the welcome hostess and say welcome hostess. Examine the telegram then move left. Go to the guard and use the airline ticket on him. Move to the first baggage carousel and examine the baggage which says Mr Martinez. Take the baggage then operate it. Go to the bathroom and operate the

| 1 | NE | Teenage Mutant Hero Turtles | Mirrorsoft | ST AG PC |
|----|----|-----------------------------|------------|----------|
| 2 | 5 | Golden Axe | Virgin | ST AG |
| 3 | NE | Robocop 2 | Ocean | ST AG |
| 4 | 2 | Lotus Turbo Challenge | Action 16 | ST AG |
| 5 | 1 | F-19 Stealth Fighter | MicroProse | ST AG PC |
| 6 | 4 | Powerpack | BeauJolly | ST AG PC |
| 7 | 3 | Kick Off 2 | Anco | ST AG PC |
| 8 | 12 | Supremacy | Virgin | ST AG |
| 9 | 6 | M1 Tank Platoon | MicroProse | ST AG PC |
| 10 | 9 | Wheels Of Fire | Domark | ST AG |

For the week ending 1st December

ST - Atari ST Ag - Commodore Amiga PC - IBM PC or compatible
Chart compiled by Gallup, © European Leisure Software Publishers Association.

TOP 10

Teenage Mutant Hero Turtles

from Mirrortsoft

- ST and Amiga £24.99
- Spectrum £12.99
- Amstrad £10.99

It's always an ominous sign when a software publisher doesn't send you a copy of its game. Mirrortsoft promised to forward me an ST version of the *Turtles* for two weeks before I finally went and bought a copy for myself.

The game puts you in control of the *Turtles* where your task is, unsurprisingly, to rescue your journalist friend, April O'Neil, from the hands of the evil Shredder. Before the game starts you select the Turtle with which you wish to play. This Turtle can be changed during the game so you can make the most of the different fighting weapons available to each Turtle. The game is arranged as a series of levels, each split into two sections – above ground and a below ground sub-level.

In the above ground section you're treated to an overhead view of urban New York with manhole covers located in the middle of the roads. You must dodge offending vehicles to dive down the manholes and explore the sewage system.

Once below ground the action switches to a side-on, horizontally-scrolling platform level. Large sprites of your Turtle can then be directed through the sewage system where the objective is to attack everything that moves. With careful manipulation of the joystick, you can leap unnaturally into the air, roll into a ball and bounce through the sewers or whip out a weapon (a different one for each of the four Turtles) and bash everything in your path. You may need to go down into several different sewers to complete a level. At the end of one of the underground sewage systems is April

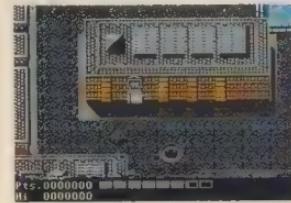


O'Neil, held captive by Shredder's henchmen. It takes considerable effort to kill the bad guy standing just in front of April and if you do succeed in obliterating him, his body just drags April off to the next level.

Besides the sewers you can also enter buildings or even go for a swim. In these scenes the objective is exactly the same as the sewage tunnel screens where you must whack everything that comes your way.

A handy save game option enables you to stop the

GAMES REVIEW



* You're above ground and frantically looking for a manhole to dive down.

razor, using the electric socket.

Now go to the passport officer and use the original passport on him. Walk left and get in the taxi. Examine the American passport and take the bench of notes. Now go to the bank and use the bench of notes on the bank clerk. Use the coins on the florist and take the red carnation. Use the red carnation on John then go to the park and sit on the bench.

Move quickly to the right and go to the bank. Use the card and key on the bank clerk then go downstairs and enter the vault. Use the key on the safe (bottom, right). Operate the ground, use the ropes on the ground then operate the ground again. Examine the part of the wall where the breeze is coming from and operate the pickaxe three times on the wall. Very carefully swim under and over the rocks, remembering to watch the oxygen level at the top of the screen. When you've finished this you come out at the florist. Walk to the beach and talk to the

game and return later in exactly the same position. Unfortunately this isn't available on the Spectrum or Amstrad CPC versions.

The 8-bit versions of the *Turtles* are competent enough. On the CPC it makes a good kids' game while on the Spectrum it is surprisingly absorbing. However, the 16-bit versions are a distinctly let-down, offering little more than those on the 8-bit systems. Scrolling is so



* Whoops, made a bit of a mistake there. The place is teeming with Shredder's henchmen. Now what do you do?



* At the end of the level try to rescue April.

abysmally jerky that it's awkward keeping your eye focused on the real action. The backdrops don't compensate much – they're brightly coloured but in such a way as to make it difficult to pick out some of the bad guys. Although the main playing sprites are reasonably large, the animation used in their movement leaves much to be desired.

This is far from being a radical concept, dudes. The problems with the game aren't restricted to the visuals. If you can survive poor scrolling and animation you then need to tolerate thoroughly unexciting gameplay. The structure of the game and the unexciting bad guys mean that the happiest moment of the game comes when you reach over for the power switch. ■



* Roll into a ball and you can bounce past the bad guys without injury.



man. Use the coins on him and go to the hotel. Press the button and go to level two then walk to the third floor. Go to the last door and operate it. You meet Julia and Otto. They kidnap you and put you on a boat.

Operate the very first sentence on the bracelet. When they throw you off of the boat you reach the sea bed. Operate the bracelet again then swim over to Julia and operate her. When you reach the surface one of Julia's friends picks you up and takes you to their hideout. You now have to go through five levels of mazes.

These are solved by finding the key and going back to the stairs. Operate the door and go into the office then go over to the statue and operate the statue's arm. A safe appears. Use the little box on the safe door and turn the box on. Operate the up and down arrow until the first light on the box comes on (if two lights come on this means there is a double figure combination), then press the lock combination button to move to the second figure. Repeat this process for the remainder of the three digits.

Well, that's enough help to be going on with. ■

CONSOLE ZONE

In this week's jaunt around the world of console gaming Richard Frederick has news about golfing and skateboarding sims, a couple of hi-tech shoot-'em-ups and the usual essential playing tips.



* Skate or Die 2: doubling up on the skateboarding action.

NES

Now you can jam on the ramp at your own leisure. *Skate or Die 2 - The Search For Double Trouble* from Electronic Arts in California is the "twisted skate adventure with the ultimate ramp". What does this mean? Another skateboarding sim has just hit the decks! Double trouble is in the house!

Electronic Arts is currently offering *Skate or Die 2* stickers and tips to video skateboarders in America.

NINTENDO SUPER FAMICOM

T&E Soft in Japan is to release a new 3D golf simulation on the Super Famicom utilising its Polysys (Integrated 3D Processor) graphics system. The game has been licensed by the Augusta National Golf Club. T&E Soft was the winner of the Login Global Award of



* Golfing action due on the Famicom.

1990 at the European Computer Leisure Awards back in March.

SEGA MEGADRIVE

Do you fancy flying a futuristic fighter laid to the limit with the latest hi-technology weaponry and drive propulsion systems? *Aero Blasters* from Kaneko in Japan is a four-megabit cartridge featuring the Raid Unit – the Trouble Speciality and Aero Blaster team.



* Aero Blasters: the Raid Unit make use of the latest hi-technology.

You can take on the role of Charles K. Holy or Mik Takeda through a smooth-scrolling multi-mission to blast enemy mecha to bits. *Aero Blasters* is also available on the PC Engine courtesy of Hudson Soft.

NEC PC ENGINE

Hudson Soft, the Japanese software developer at the cutting edge of games

technology, has converted Bullfrog's *Populous* onto the PC Engine. This overwhelmingly successful strategy arcade game is now available on the Sega Megadrive and Super Famicom and a Sega Master System version is also currently under development.

Hudson Soft is the most prolific PC Engine games developer with *R-Type* and *Gunhed* already under its belt. *Populous* on the PC Engine will be released in Japan early next year for 7800 yen (£31).



* Fire and Forget II: more explosive action that you won't forget in a hurry.

SEGA MASTER SYSTEM

"Prepare to experience the most extraordinary arcade game ever designed," boldly proclaims French games house Titus. *Fire & Forget II* is a five-level car racing shoot-'em-up. You're the pilot of an all powerful combat vehicle in hot pursuit of terrorists.

Fortunately you have an advantage in the form of the ability to take to the air and out-maneuvre your enemies. Along the way you can pick-up extra weapons, ammunition and fuel. You'll have to work your way through the entire convoy and destroy the leading vehicle before the Ultimate Explosion'.

Fire & Forget II is a two-megabit game featuring 12 tunes, six-level paral-

lax-scroll and a screen speed of 50 images per second.

NINTENDO GAMEBOY

Navyblue 90 is the latest game from the Japanese USE Corporation. This 3,500 yen (£14) cart is basically an arcade adaption of the ageless paper-game Battleships.

It does feature some unusual ordnance, though. Have you ever seen missiles brandishing sharp pointed teeth and a pair of boxing gloves? You will if you buy *Navyblue 90* ■

PLAYING TIPS

ATARI LYNX

Special thanks to David Will Henderson from Scotland for this *Blue Lightning* tip: Toggle on afterburners as you take off in Mission Four. You'll get an extra bonus on completion of the mission. Good luck with the fanzine, David!

NINTENDO ENTERTAINMENT SYSTEM

Go straight to the USSR vs Holland final in *Goal* with this passcode: FTXAREZC GOLGPIMB

NEC PC ENGINE

When your Power Wing in *Dragon Spirit* by looking in the large pillar behind the wall on stage seven.

SEGA MEGADRIVE

Destroy all four bases in Under 11 seconds on any *Thunder Force II* vertically-scrolling stage for a 250,000 bonus points.

NINTENDO GAMEBOY

Have you got any hints for *Super Mario Land*, *Batman* or *Tetris*? Send them to the usen address.

SEGA MASTER SYSTEM

Kill the phoenix boss in round one of *Cloud Master* by hitting it 15 times on the beak.

YOUR ZONE

We're looking for the greatest video game players in the country. Send us your top scores on the latest games releases.

Have you found any hidden features in your new games? What do you want from the next generation of console hardware and bases? We want your views on any subject connected with console gaming.

We're also after your tasty tips, crafty cheats and hot hints. So if you want to see your name in print write now to:

The Console Zone, New Computer Express, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW
or fax 0225 446019.

THIS WEEK'S HIGH CONSOLE SCORES – CAN YOU DO ANY BETTER?

MEGADRIVE

| | |
|--------------------------|-----------|
| <i>Eswal</i> | 277,900 |
| <i>Forgotten Worlds</i> | 1,843,000 |
| <i>Ghouls 'n' Ghosts</i> | 750,000 |
| <i>Golden Axe</i> | 414.5 |
| <i>Moonwalker</i> | 1,026,360 |
| <i>Rainbow Islands</i> | 1,760,980 |
| <i>Super Shinobi</i> | 5,890,200 |

| | |
|--------------------------------------|---------|
| NINTENDO ENTERTAINMENT SYSTEM | |
| <i>Super Mario Brothers.</i> | 510,660 |

GAMEBOY

| | | | |
|----------------|------------------------------------|---------|----------------------|
| Alex Taylor | <i>Batman</i> | 424,060 | Peter Worth |
| Wai-Yin Man | <i>Super Mario Land</i> | 474,170 | Jay Lee |
| Tim Walker | <i>Tetris</i> | 396,064 | Peter Worth |
| Alex Taylor | | | |
| Nicholas Wells | LYNX | | |
| Nicholas Wells | <i>Blue Lightning</i> | 240,950 | David Will Henderson |
| Wai-Yin Man | <i>California Games (BMX)</i> | 798 | Nicholas Wells |
| C. Heefer | <i>California Games (Football)</i> | 100,743 | Nicholas Wells |
| | <i>California Games (Haltippe)</i> | 32,025 | Nicholas Wells |
| | <i>California Games (Surfin')</i> | 8,100 | Nicholas Wells |

LEISURE GENIUS



THE NAME SPEAKS FOR ITSELF



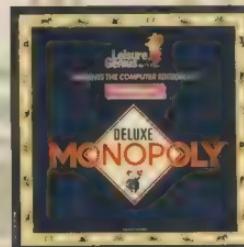
SCRABBLE DE-LUXE



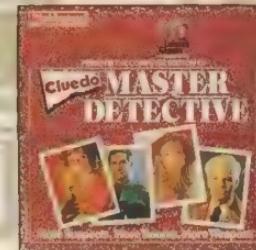
RISK



DIPLOMACY



MONOPOLY DE-LUXE



CLUEDO MASTER DETECTIVE

also available:
MINDSTRETCHERS featuring
SCRABBLE, MONOPOLY, CLUEDO on
Spectrum, Amstrad and C64

and: **CLUEDO**
on Spectrum, Amstrad and C64



CLUEDO® Trademark and Copyright Licensed by Waddingtons Games Ltd.
MONOPOLY® This product is produced Under Licence from Parker Brothers and Waddingtons Games Ltd.
© All rights reserved.
SCRABBLE® Trademark and Copyright licensed by J.W. Spear & Sons PLC.
DIPLOMACY® 1984/87 The Avalon Hill Game Company
RISK® 1959, 1988 Parker Brothers, Division of Knauf-Parker Toys Inc. (KPT).

| | INT PC | AMIGA | ATARI ST | COM DISK | COM CASS | SPEC +3 | SPEC CASS | AMIGA DISK | AMIGA CASS |
|-------------------|-----------|-------|-------------|-------------|-------------|------------|--------------|---------------|---------------|
| SCRABBLE DE-LUXE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MONOPOLY DE-LUXE | | | | 0 | 0 | | | | |
| CLUEDO MASTER TEC | 0 | 0 | 0 | | | | | | |
| DIPLOMACY | 0 | | | | | | | | |
| RISK | 0 | 0 | 0 | 0 | 0 | | | | |

GAMATE



COMPACT VIDEO GAME SYSTEM



Includes:

- Game System Console
- Stereo Headphones
- Manual
- Gamate Gamecard
- 4 "AA" Batteries
- Portable, Hand-Held Design



○ Dot Matrix LCD.

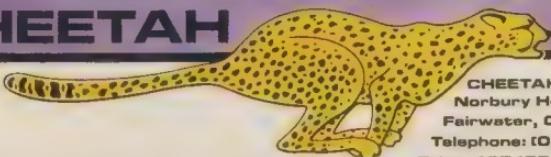
○ Single player or Dual player facility with optional lead.

○ Rechargeable battery pack or AC adaptor available separately.

○ Extensive library of interchangeable Gamecards to guarantee continued excitement, only £14.99 each.

ONLY
£59.99
WITH FREE GAME

CHEETAH



CHEETAH INTERNATIONAL LTD.
Norbury House, Norbury Road,
Fairwater, Cardiff U.K. CF5 3AB.

Telephone: (0222) 555525

Telex: 497455 Fax: (0222) 555527

The 16-bit machines have dominated the public domain scene throughout the year. Machines like the PC have had a head start, with PD software being available since the beginning of the last decade, but new products have slowed to a trickle compared to the avalanche of the ST and Amiga programs that have been released in the past 12 months.

So, we take a retrospective look at the best in 16-bit PD that has featured in the Express' PD Column in the last year (well, in the last six months actually – I started writing the PD Column in issue 85, 26 issues ago).

ATARI ST TOP TEN

1: Planetarium (Issue 97; South West Software Library)

Whether you're a star gazer or not, *Planetarium* is a fascinating piece of public domain. It's like having the whole Universe in your living room. The program allows you to scan the heavens from the comfort of your own armchair with the central heating turned up full.

The program has accurate information about all the heavenly bodies visible to the naked eye (and a good many that aren't). You can choose the time and place from which to do it too. On start up you're prompted to set the date and time – so you can look skywards from any point in history, past present or future. You're not restricted by geographical bounds either – you may view the stars from any location on Earth, from the North Pole to the middle of the Pacific Ocean.

As well as the stars, the Sun, Moon and planets all feature. They can be emphasised by having their symbol float alongside them. The constellations too can be monitored with a three-letter abbreviation moving along with them. Everything you can see can be enquired about. There's tons of information hidden away inside the program, giving details about all the planets in the field of view.

There are so many nice touches too. When the moon is on screen it is shown in its current phase. When the sun rises above the horizon the sky turns from black to bright blue. Both colour and mono monitor users are catered for.

2: ZX81 Emulator (Issue 93; Sphinx Software)

The ZX81 was the one that started it all. It transformed the computer market from the domain of bearded hippies locked away in the university's computer room, into the mass market that we have today.

The machine was black, small and boasted a palette of two colours (black and white), had no graphics or sound apart from the hum of the mains adapter, and had a massive 1K of memory, expandable to 16 gigabytes, sorry, kilobytes.

The emulator lets you run anything that the ZX81 could run. It has a copy of the 81's ROM built in to the software, as well as valuable optional extras – including a joystick port and memory expansion were much sought after on the real thing.

Fast disk loading has been implemented. As far as the programs are concerned they behave as if it were

IT'S A FREE FOR ALL

1990 was a vintage year for public domain software – the programs they give away for nothing. Adam Waring surveys the 16-bit offerings...

waiting to load from tape, but thankfully the user sees it all happen much more quickly.

A library of ZX81 programs are included on the disk, so you play your old favourites immediately.

3: Core Wars (Issue 88; South West Software Library)

Core Wars is an old programmers' game. It pits the skills of the program writers against one another. A simple programming language is used to write the routines. They are placed in an area of memory and a master control program executes one instruction from each program at a time. The object is for the programs to annihilate each other; to corrupt each other's code and render them useless.

Once the programs have been designed and put into the electronic arena, the programmer is powerless, and can only wait for the results of the battle. It really is the survival of the fittest.

The language has just ten instructions, but complicated and devious programs can be created with them. A huge library of finely tuned warrior programs have been created, so you can watch them fight it out without even having to write your own.

4: Vanterm (Issue 92; South West Software Library)

Vanterm has virtually everything you could ask for in a comm package. It's controlled from the GEM environment that ST users are so used to, but has also got keyboard hot-keys so that the experienced user can get to the functions they want quickly and without the fuss of drop-down menus.

It's easy to get on-line, even for your very first go with the package. The program is so friendly that you can hardly go wrong when connecting up to a bulletin board. That's not to say it doesn't have power though – far from it.

Vanterm is very comprehensive and includes features that you'd normally only expect to find in the top commercial packages.

5: Mouse-Ka-Mania (Issue 104; Softville Computer Supplies)

Don't you get bored of the same old pointer on the ST? The arrow and bee icons are a bit tedious. *Mouse-Ka-Mania* changes all that. It allows you to fashion your own icons to replace the dreary old desktop doings.

The restyled pointers are designed on a 16 square grid. You can really let your imagination run riot – it's up to you what roams your desktop when you use this program. You can even tag a pointer to a series of separate frames, giving you instant animated pointers.

There are loads of examples already designed, so if you have the artistic ability of a sloth that's had its limbs removed, you can still select pretty new pointers.

6: Douglas (Issue 111; South West Software Library)

Douglas is based on a very old, but nevertheless brilliant game called *Boulderdash*. The game world consists of a hostile underground terrain, littered with mud, boulders and of course monsters.

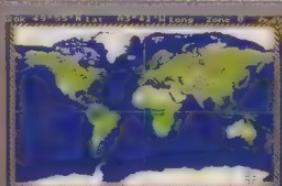
To make it all worthwhile, there are also plenty of diamonds there for the taking. Our hero's quest is to stuff his pockets full of the glittering gems and reach an exit before time runs out.

7: ST Writer (Issue 96; South West Software Library)

One of the most commonly used programs by computer users is the word processor. Letters, reports, even the PD column are banged out on a computer keyboard.

Word processors have so many advantages over the traditional typewriter. Nothing is committed to paper until you're ready for it. So all the spelling mistakes can be corrected, and you can get rid of that terribly constructed paragraph before anybody else ever sees it.

ST Writer doesn't have features that'll send you reeling with excitement. It does have everything you'd expect though. You can chop and change text as you wish, centre and justify it, and set codes so that your printer can italicise the points you want to emphasise. All in all it is a perfectly useable program, and it's free.►



* Planetarium: pick your spot in space and time...



...from view the sky.



* Douglas: Boulderdash but for nothing.

8: Expander (Issue 99; Elmsoft)

Expander is one of those programs you'd probably only ever use once, but on the occasion that you do use it, it becomes the most valuable thing in the whole world.

If, like me, you bought your 520ST a few years ago, then you'll have bought a machine with a single-sided disk drive. Now the time comes in every young man's (or woman's) life, when a half-meg drive just isn't enough. It's time to expand.

When you do though, you realise that the collection of software you've built up over the years only makes use of one side of the disk. You can still use them, but it's just such a damned waste of space.

What Expander does is this: it re-formats your single-sided disk to double-sided – without affecting the existing data! You instantly double the size of your collection without the loss of a single byte, saving you pounds! Clever, innit?

9: Mix 'n' Match (Issue 109; The Other PD Library)

Mix 'n' Match is a dead simple concept: turn over card and try and match two of a kind together. The difficulty lies in trying to remember all the cards you've presented with – it's played with 32 in total.

It's a two player only game, so you need to find a willing partner to challenge. Apart from that though, it's jolly good fun.

10: Accessory Compilation (Elmsoft; issue 100)

Desktop accessories are mighty useful things. Almost at will you can stop what you're doing, and load something else for a few minutes. Then, when you're finished you can go back and resume the previous task.

Accessories lend themselves to a variety of tasks. Games, utilities, almost anything in fact, that you'd find in fully fledged programs.

This compilation has 80 of the things on two double-sided disks. The only problem is choosing which ones to install!

COMMODORE AMIGA TOP TEN

1: Ncomm (Issue 92; Amiganuts)

If it's comms you're into then Ncomm is for you. It's a fully blown comms package and will let you get in touch with the world via your keyboard.

The package is powerful enough to contain every feature you could rightly expect. It'll allow you to get on line in no time at all. One of the extra-useful features is a built-in phone book – you can store the numbers of your favourite bulletin boards.

2: Virus Killers (Issue 110; Dozsoft)

Viruses are vicious things. They can wipe out your entire collection of software that you've built up over the years in a matter of seconds.

So it's essential to protect yourself. Virus killers do just that, and this disk has four of them to make the insides of your Amiga a safe place.

All the programs are useful, and each has a slightly different way of going about hunting down those evil

programs. Between them the packages contain all you need to search and destroy even the most deadly viruses.

3: NorthC (Issue 96; Amiganuts)

If you fancy taking the plunge of writing your own programs, then C could be the ideal choice. C is very popular when it comes to writing commercial applications; it's far more powerful than high level languages like BASIC, but doesn't get bogged down with the tedious technicalities of learning assembler.

In fact many commercial applications are written in C. NorthC provides the editor and compiler, in fact everything you need to write your own programs.

Viruses are vicious things. They can wipe out your entire collection of software in a matter of seconds, so it's essential to protect yourself.

4: C Manual (Issue 96; Amiganuts)

If you're to take C seriously, then you'll also need a good tutor. C Manual comes on three disks packed with everything you ever need to know about C.

It's as good as any book, maybe even better. Only a software-based package can take you through ready made examples. Books tend to rely on boring listings that take hours to type in. To test out these programs you don't need to be a perfect typist; all you need to do is load them in.

It takes you through your first faltering steps through to the most advanced examples. Obviously it's not the sort of thing you can pick up in the first hour, but give it a couple of weeks and who knows...

5: Star Trek (Issue 93 & 95; Amiganuts)

Star Trek may be an old formula, but this Amiga interpretation is excellent. Off you go, Star Trekkin' around the Universe, you're in charge of the Enterprise, and have to boldly go where no man has gone before...

The game sets you on a mission to explore deepest space, and you have to take care of all aspects of the vessel. The original version reviewed had a German manual, but a couple of issues later, a copy with the English instructions turned up.

6: Popeye Meets the Beach Boys (Issue 98; Crazy Joe's)

Heaven knows that demos are the pretty tedious examples of public domain software. All they do is produce wibbly scrolling messages that give you a headache after a while. Well, not all demos. Some can be a source of real amusement, such as the Popeye demo.

The spinach-gorging sailor meets up with those Californian pop stars of the Sixties to cut a record, with excellent results. It opens with the Boys singing the

backing vocal to their classic *'Wouldn't it be nice'* when Popeye cuts in with the lead! It goes on with Pluto doing his bit with David Bowie... well, it really does need to be heard to be appreciated.

7: Sid (Issue 85; Amiganuts)

Sid provides a sparkling new front end for the Amiga's operating system. It replaces the cumbersome CLI (Command Line Interpreter – even the name's unfriendly). The program does everything that CLI does, just in a much nicer, more hospitable way.

Instead of having to remember all those tedious commands, everything is listed for you at the bottom of the screen. You just move the mouse, click, and your wish is its command.

Sid provides the simplicity of Workbench with the power of the CLI, and very well it does it too.

8: Games Disk (Issue 108; Capricorn Computers)

A compilation of four games that simply must not be missed: Pipeline, Jagged, Mastermind and Sokosky.

Pipeline is a variant on the popular arcade game *Pipemania*. A pipeline has to be built to contain the flow of some unknown oozing substance that makes its way along a set of pipes. You put those pipes down, but you have no control over what pieces are coming your way. You can see the next five segments that you'll be receiving, and it's up to you to place them where they'll come in useful later on.

Jagged is a computer version of the brilliant board game *Risk*. Mastermind plays the old code cracking game. The computer sets the code, and you have to break it. The game runs from the Workbench, and can be clicked on or off with ease. It's useful for killing boredom in between more serious work.

Sokosky is a simple puzzle game. You have to move tiles by pushing them from one place to another. A simple, but deceptively difficult game.

9: Colouring Book (Issue 95; Page One PD)

Colouring Book acts just like the old fashioned paper and crayon variety, with none of the mess. An outline of a picture to be coloured in comes up on screen, and you colour parts of it in with a mouse press.

There are plenty of pre-drawn pictures to vent your artistic bent on, and you can import any others you may have drawn from other art packages. Once on screen you can colour them in with a palette of 10 colours. For kids it's brilliant.

10: Silent Fantasy (Issue 102; Lorenzo's Domain)

Everyone knows that the Amiga is the machine when it comes to graphics. But if you want to really show what your computer can do then the *Silent Fantasy* slideshow can bring a grown man to tears. The program has some of the best hand-drawn art you'll see anywhere.

Most of these programs are generally available in all the public domain libraries, although we have indicated a library which definitely stocks them in each case. Check in Shopping Express for suppliers details. ■



• Mix 'n' Match: surprisingly challenging.



• Star Trek: boldly going for free.



• Silent Fantasy: excellent graphics.

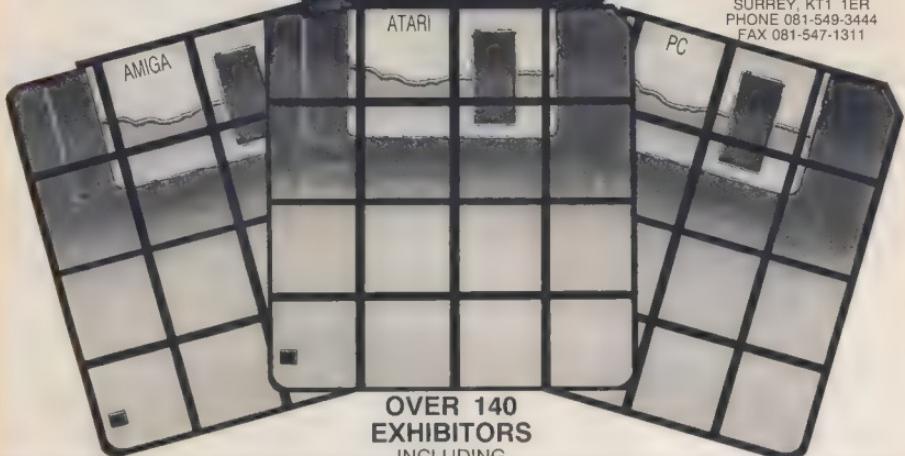
• EUROPES BIGGEST 16 BIT DEDICATED EVENT •

4 - 5 - 6
JANUARY
1991
SHOW OPEN
10-6 EVERYDAY

CLOSES 4PM
SUNDAY 6th

3rd
16 Bit
Computer
Fair

NEW LARGER VENUE
NOVOTEL
HOTEL
HAMMERSMITH
LONDON W6
NEAREST TUBE STATION
HAMMERSMITH
(PICCADILLY, METROPOLITAN
& DISTRICT LINES)
ORGANISERS WESTMINSTER
EXHIBITIONS LTD
SURREY HOUSE
34 EDEN STREET
KINGSTON
SURREY, KT1 1ER
PHONE 081-549-3444
FAX 081-547-1311



OVER 140
EXHIBITORS
INCLUDING

ADAMSOFT, ADVENTURE SOFTWARE, AUDIO VISUAL RESEARCH, CASPELL COMPUTERS, CAVENDISH DISTRIBUTION, CHECKMATE SYSTEMS, COMPUTER MANUALS, DS&K DESIGNS, ENSONO, ECLIPSE COMPUTER SUPPLIERS, FRONTIER SOFTWARE, GFA MEDIA DATA, GASTEINER TECHNOLOGIES, H.B. MARKETING, HI-SOFT, HI-TEC MODEMS, INFOGRAMMES, INTERCEPTOR, KUMA LOGIC SALES, MEMORY EXPANSION SYSTEMS, MICRO MART, MICRODEAL, MUTANT SOFTWARE, NADI SYSTEMS, PANDAAL MARKETING, POWER COMPUTING, PROTON SOFTWARE, PSYGNOSIS, RAD TECHNOLOGY, RIVERDOME PDL, SILICA SHOP, ST CLUB, SIREN SOFTWARE, SOFTWARE SELECTION, STAMPEDE, TAKE CONTROL, U.S. ACTION, U.S. GOLD, VIDEK

THE ONLY EUROPEAN SHOW DEDICATED TO THE
SERIOUS & ENTERTAINMENT SIDES OF THE ST, AMIGA & PC
EVERYTHING FOR YOUR COMPUTER • .HARDWARE. .SOFTWARE. .PERIPHERALS. .CONSUMABLES.

SAVE TIME & MONEY BY PRE-PURCHASING
A FAST LANE TICKET BEFORE DECEMBER 17th

SAVE
£2 PER
TICKET

PRE-PURCHASE
YOUR TICKETS
AND SAVE
40%
OFF REGULAR
DOOR PRICE

SAVE £2 PER TICKET

REGULAR TICKET PRICE £5 (At door or after December 17th)

FAST LANE TICKET £3 (Purchased before December 17th)

CHILDREN UNDER 10 ADMITTED FREE WITH ADULTS

POST TO - 16 BIT FAIR, P.O.BOX 68 ST AUSTELL, PL25 4YB

PLEASE SEND ME.....FAST LANE TICKETS AT £3 EACH

CHEQUE/ P.O. ENCLOSED FOR £MADE PAYABLE TO 16 BIT FAIR

NAME.....

ADDRESS.....

POSTCODE.....

OR PHONE 0726 68020 With Credit Card No.

FAST LANE
TICKET
HOLDERS
HAVE THEIR
OWN PRIORITY
ENTRANCE
A "FAST LANE
TICKET HOLDERS
ONLY" ENTRANCE
WILL BE SITUATED
ON THE 1ST FLOOR
OF THE HOTEL
ADJACENT TO
THE RECEPTION
DESK. TAKE NO
NOTICE OF THE
QUEUE OUTSIDE.
SIMPLY WALK INTO
THE HOTEL LOBBY.

CONSOLES

SUPER FAMICOM



FAMILY FORTUNES

Tony Takoushi casts a fond glance over Nintendo's 16-bit Super Famicom.

After much rumour and speculation Nintendo launched its 16-bit console on to the Japanese market at the end of November. It is called the Super Famicom and it represents the state-of-the-art in console technology.

The Super Famicom retails for 25,000 yen (around £95) and two games were launched with it: *F-Zero* and *Super Mario World* which sell for around £30 each.

The console is technically very sophisticated with dedicated processors and custom chips. It can do hardware scaling and rotation – the only other game system with scaling is the Lynx from Atari, but that doesn't have rotation. Scaling a screen graphic and then rotating it is common in powerful arcade machines like *Afterburner* and *Power Drift* – but on a £95 home console?

The console is of dense grey plastic with a solid weighty feel. The look and build speak of quality and much thought has gone into the design. The top of the unit has the power On/Off slider with Eject and Reset buttons. The cartridges slide into the top through a flap. To the rear are power [jack], c1t-ch2 [for TV tuning], RF output and a multi-out port for connecting a composite or SCART monitor. Underside is a flip-off panel revealing a 28-pin port. Peripherals are as yet unannounced.

The game cartridges are similar to Megadrive carts and boast megabyte data capacities. The two joystick ports are recessed, facing front with non-standard 7-pin horizontal sockets, so you have to use the pads supplied. These have four fire buttons plus Select and Start buttons and recessed left/right buttons for extra control.

There's no power supply with the unit but you can buy one separately or use the power supply from a Nintendo Control Deck. The only video output is to RF (standard TV); you can run the console on composite or RGB monitors but the extra cables will cost around £10.

THE GAMES

F-Zero is a futuristic racing game which uses the hardware scaling and rotation to the full. As you race other cars the screen literally rotates as you go around corners, and the road ahead snakes its way towards you. The exceptional aspect of this game is that all rotation and scaling is silky smooth and ramming into the side of

the road leaves your eyes feeling concussed! *Super Mario World* is the latest in the Mario series. It is a worthy follow-up with much of the same platform jumping and coin collecting. The music and sound effects are truly superb (see the tech spec). Again there are some original touches and a depth of play that is coupled with instant playability to ensure the Mario series' continued success.

Imageworks' *Bomberman* is due next month and the IREM arcade classic *R-Type* is due early next year.

THE COMPETITION

There is only one machine that can boast a better technical specification and that is the Neo-Geo, but even so it's in just one area – it has more on-screen colours (256 as against 128). In all other respects the Super Famicom outperforms all the other consoles on the market today.

Logically Nintendo should clear up as soon as its machine reaches Europe and the US. But things do not always work logically in the console world! The PC Engine was launched four years ago and technically it beat the 8-bit Nintendo hands down, but it still hasn't taken significant market share from Nintendo.

This is down to marketing, brand loyalty and timing. Sega is the undisputed king of Europe, so if Nintendo



• The racing game *F-Zero* features superbly smooth scrolling.

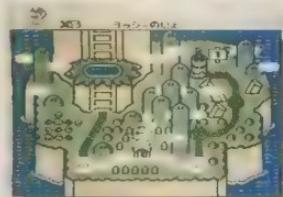
launch into Europe it is up against the market leader, brand loyalty and an established 16-bit console with significant software support. This, coupled with Nintendo's failure to establish a credible UK presence (at least until the recent arrival of the Turtles pack), raises doubts about Super Famicom's British success.

In the US the situation is different. The Sega Megadrive is established and selling well, but Sega has always been second and Nintendo is unassassable. It is possible the Super Famicom will come to Europe before the US because if Nintendo leaves it too late they will be left with crumbs in a growing and buoyant market.

The bottom line is that the Super Famicom is an awesome piece of hardware which will have a significant impact on gaming in this country. ■

ALL THINGS BRIGHT AND TECHNICAL

- The unit is powered by a 10V DC x 850 millamps supply unit. It weighs 1.35kg and measures 200mm x 242mm x 74mm.
- The CPU is 16-bit with DMA. It can operate at three clock speeds (17.92MHz and 3.58MHz).
- Screen resolution can be 256 x 224 or 512 x 448 with a choice of 128 colours from 32,768.
- It has a Digital Sound Processor, which is 8-bit and runs at 6MHz. It also boasts 16 channel PCM, sampling of 32KHz and 256 bytes of RAM.
- The CPU has 128K of RAM and the PPU (a special sprite chip) has another 64K.



• Super Mario World: the latest in the long-running series.



TAKEAWAY A LAPTOP

A Mac to take away used to be in the domain of fast food. Keith Pomfret looked at the Outbound, a laptop for less than £2,000 that puts the Macintosh user on the street.

The Outbound is a Macintosh in a portable machine that weighs less and costs less than Apple's own heavyweight portable. To make it work without infringing Apple's patents it 'shares' the System ROMs of Mac Plus or an SE so you'll need one to make the Outbound work.

It has a megabyte of RAM, with another 4Mb which is used instead of a hard disk for storing files and programs. 1.44Mb high density 3.5-inch floppy can read and write Mac and PC disks. There's a version available with a 40Mb hard disk instead of the floppy drive. The processor in the Outbound is the 68000 which runs at 15MHz (twice as fast as the standard chip in the Plus and SE). The display is a backlit LCD with adjustable contrast that is slightly larger than an SE's screen; it is 640x400 pixels instead of the 512x342.

The keyboard is separate from the main unit and sends its signal via an infra red beam in much the same way as the remote control on a TV or video. The system unit stands vertically and if you want a stable machine to sit on your lap, it's possible to lock keyboard to system unit for a more robust laptop.

The problem of a mouse-based computer as a laptop has been solved by the Isopoint device. This is a horizontally sliding and vertically rolling pad below the spacebar that allows you to simultaneously mimic the movement of a mouse. While it is a little tricky at first, you soon get used to it and it takes up less space than the trackball that is usually used as a captive mouse when there's a space problem. There are a range of optional extras including extra batteries, a case, a mouse, SCSI adapter and external disk drives. Power supplies are available for the US and Europe.

In order to use the Outbound, the ROMs are taken from your host machine and placed in the Outbound by

your dealer. In the office, the Outbound connects to the host machine and you can use the Plus or SE in the normal way only with the advantage of all the Outbound RAM (maximum of 4Mb between both machines) and the LCD screen of the Outbound too. The advantage of two screens is that you can have a work window open on one and all your ancillary tasks open on the other.

Another advantage of this connected mode, known as docking, is that your desk Mac benefits from the

I left the office to sit on a nearby hill top to design a couple of pages

faster 15 MHz processor of the Outbound. When you disconnect the Outbound to work away from the office, it takes the System ROMs with it and the host machine is disabled until its return.

Working on battery power alone, the manufacturer claims the Outbound can run from its internal battery for up to three hours. Despite following advice on maximising battery use, we were unable to operate the Outbound for more than 85 minutes. If the battery does fail, there's a lithium cell to protect the silicon disk and this is claimed to protect the system from storage loss for around 24 hours.

The awkward shape of the Outbound makes it an unusual machine to use on the lap and I was worried about it slipping off (it didn't). On a table in a crowded restaurant, the infra red keyboard allowed it to be perched on my place setting while I sat back in the chair with the Outbound keyboard on my lap. It's difficult to describe the user-friendliness of the machine that's using the system of a Macintosh. The Mac's supposed to be the most user friendly and the easiest machine to pick up and use and the Outbound is the same. The familiar WIMP interface, a clear uncluttered simple to use screen and access to reams of productivity software that uses the same keystrokes makes it the simplest and most desirable portable I've ever used.

To test its power, I loaded Quark XPress (the DTP program that Express is produced on) and left the office to sit on a nearby hill top to design a couple of pages. Once I had saved them I was able to upload them to an office Mac via a telephone and modem. It is possible to write, design and DTP a page anywhere and send it back to the office. The Outbound was able to run every

piece of Mac software that I tried in it. All the heavyweights were happy to run.

My only real qualm was the battery life. With machines managing more than four hours away from the mains, a machine without a hard disk drive should be managing more than it did. The spare batteries are expensive at £49.95 – they are exactly the same model that I have in my cellular telephone and colleagues rich enough to own camcorders recognised them too. I tried a cellphone battery in the Outbound and it lasted just as long – the cellphone battery retails at £25.

It's a machine to aspire to and I'll be sorry to have to return the review model. In the office, it made my aging Mac Plus look a bit quicker than usual and the advantage of the two machines sharing their resources was a great benefit. Using it as a true portable meant obtaining an extra battery and for peace of mind, finding a flat surface to work on. I didn't feel happy with it on my lap although it remained there safely enough.

It fitted into my briefcase with power supply documents and disks, but the supplied carry case was more convenient (if a little expensive.)

The only competition to the Outbound is the official 12-pound Apple Mac portable. I prefer the Outbound. It's three pounds lighter, £1,300 cheaper and as a portable is much more convenient. ■

SPECIFICATION

| | |
|-----------------------|--|
| Processor | 68000 (15MHz) |
| RAM | 1Mb expandable to 4Mb. |
| Silicon Disk | 4Mb expandable to 16Mb. |
| Floppy drive | 1.44Mb Mac/PC 3.5-inch drive. |
| Hard Drive (optional) | 40Mb 2.5-inch internal drive (replaces floppy). |
| Display | LCD with fluorescent backlight (640x400 pixels) software adjustable contrast. |
| Keyboard | 63 key detachable infra red keyboard conforming to SE standard (without numerical keypad). |
| Pointing device | Isopoint. |
| Battery | Standard computer/cellphone/camcorder lead-acid battery. From battery or AC adapter. |
| Power | Apple-talk compatible printer port, comm port and host. |
| Ports | comm port and host. |

PRICES

| | |
|--|--------|
| Outbound with floppy drive | £1,895 |
| Outbound with 40Mb hard drive | £2,595 |
| Plus/SE interface kit | £100 |
| External floppy | £259 |
| SCSI adapter | £129 |
| Carry case | £99 |
| Mouse | £99 |
| PSU | £49.95 |
| Extra battery | £49.95 |
| Outbound is available from Computers Unlimited, 2, The Business Centre, Colindene Lane, London, NW9 SDU. Telephone: 081-200 8282 | |

THE ATARI ABC

Now, there's a PC-AT compatible that not only solves problems like other AT compatibles, it also solves the one problem that its predecessors have created - affordability.

Silica Systems are pleased to present the new Atari ABC. The ABC is a 286 AT compatible that runs at over 8 times the performance of the IBM XT. This is achieved by combining the power and speed of a 16-bit 286 processor, with Atari Corp.'s development experience and engineering capabilities, which use the very latest design technology. However, the Atari ABC's are available at 'XT' prices* and many XT owners will wonder why they paid more, but got less performance. The ABC is built to the same standard as the XT, but with significantly more expansion capability. It is well designed, to a state of the art specification, maintaining maximum expansion capability for the future. This includes up to 4MB of RAM and 3 AT expansion slots. Plus, unusually for a PC at this price, the ABC has the ability to install two or three extra drives, with the cabling already inside the CPU.

The ABC has a host of impressive features, which build on the standard. encouraging similar standards. The ABC's small footprint and quiet operation, mean that you will notice it less on your desk than other PC's. Except, of course, when you begin to take advantage of its AT power.

At its remarkably low price point, the ABC is ideally suited for home, office and educational use and will take full advantage of the vast range of PC compatible software. And, with 12 months FREE on-site maintenance (8 hour response), you can rest assured that your ABC will be fully supported.

The ABC is the latest addition to our ever-expanding range of both 286 (8MHz or 12MHz) and 386 (16MHz and 20MHz) PC's from the Business Systems Division of Atari Corp. Atari's PC range offers an unsurpassed combination of reliability, compatibility and expandability, with unique features like Atari's 44Mb removable hard disk on their PC4. Return the coupon NOW for further details of the complete range of PC products from Atari's Business Systems Division.

ABC TURBO

AVAILABLE: JUNE 90

To put the ABC even further ahead of the competition, we have introduced a special 'Turbo' version, which includes a super fast FLL hard disk controller to increase transfer rates. The ABC Turbo is available with 30Mb hard disk and costs £899 (+VAT). Plus, to provide exceptional graphics with an outstanding colour resolution of up to 1024x768, we have included a Super VGA graphics adaptor with 1MB of memory. The ABC Turbo is available with 1024x768 resolution, all for an additional price of only £300. Check the ABC Turbo against the competition, as it's only £1299 (+VAT) with 30Mb hard disk. Super VGA colour graphics capabilities, plus 12 months on-site maintenance. It offers unbeatable value.

LOW PRICE - HIGH SPEC!

DISK CPU+MOTHERBOARD

- 8MHz 80286 16-bit CPU
- Landmark Speed = 10.3MHz. Norton SI Test = 9.0
- Latest NEAT (New Enhanced AT) technology chip set
- Has user selectable bus, DMA speeds & wait states
- Programmable to operate at 0 or 1 wait states
- 640K RAM base memory (expandable)
- Motherboard expandable to 4Mb RAM memory
- Real time clock with battery back-up
- Full 16-bit data line capability
- Socket for 80287-8 numeric Co-Processor
- 3 16-bit AT expansion slots (max)
- 32Mb hard disk - 150KBytes/s transfer - 80ms access
- Fast disk controller - 800KBytes/s transfer - Turbo version
- 1.44Mb built-in 3½" floppy disk drive
- Space for two 5½" and two 3½" drives (max)

PHYSICAL GRAPHICS I/O

- Parallel port built-in (25-pin Centronics)
- Serial port built-in (9-pin RS-232)
- Mouse controller port built-in (9-pin serial)
- Super VGA video graphics controller - 512K - Turbo vers
- Super VGA: 256 colours in 800x600 res - Turbo vers
- EGA video graphics controller built-in
- EGA: 16 colours available from a palette of 64
- EGA: 256K of dedicated Video RAM built-in
- MDA and Hercules graphics controller built-in

PLUS! PHYSICAL

- Low noise operation
- Ergonomic small footprint (38cm x 41cm x 15cm)
- Keyboard - 102 key enhanced AT (12 function keys)
- Keyboard - has 2 position height adjusters
- Fully OS/2 compatible (requires 4Mb RAM)
- Supports Industry Standard Networks
- MS-DOS 3.3 with GW BASIC 3.22
- 12 Months FREE on-site maintenance included

SILICA SYSTEMS OFFER YOU

ON-SITE MAINTENANCE (8 hour response). Available Free of charge on all ABC's. TECHNICAL SUPPORT HELPLINE: Team of Atari technicians experts at your service. YOUR OWN CONTRACTOR: We can supply a local contractor to maintain your system. FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK. ESTABLISHED 12 YEARS: Proven track record in professional computer sales.

EXCLUSIVELY DISTRIBUTED BY: The largest independent manufacturer of business/education/government. Volume discounts available for large orders.

PRICE MATCH: We normally match competitors on a "Same product - Same price" basis.

SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches. THE LARGEST STORE RANGE IN THE UK.

FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details.

PAYMENT: Cash / cheque / credit card / credit - we are licensed credit brokers - details on request.

Before you decide when to buy your new Atari ABC, we suggest you think very carefully about WHERE you buy. If, for example, you buy from a mail order company, you may not receive the support you expect. You may not receive technical support or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new ABC products? At Silica Systems, we ensure that you will have nothing to worry about. Silica Systems is a well established company with a long history of supplying quality computer products. This new division has been formed to provide a service to the more serious home user, as well as to business and education purchasers. Silica has been established for over 12 years, and has an enormous amount of experience in the computer industry. Our experience and expertise, we can now claim to meet our customer requirements with an understanding which smaller companies cannot offer. Please send us a fax or letter and we will be happy to discuss your needs for it. Complete and return the coupon now, for our free literature and begin to experience the Silica Systems Service.

SILICA SYSTEMS S

286 AT

WITH 30MB HARD DISK & EGA MONITOR - £899

FREE! - ON-SITE MAINTENANCE

FREE! - TECHNICAL SUPPORT HOTLINE

FREE! - TEST/BURN-IN BEFORE DESPATCH

FREE! - OVERNIGHT COURIER DELIVERY

£899
WITH +VAT

**30Mb
HARD
DISK**

AND
**EGA
MONITOR**



ABC TURBO £1299 +VAT

• SVGA COLOUR MONITOR
• SVGA GRAPHICS CARD - 512K
• 30MB HARD DISK DRIVE
• FAST DISK CONTROLLER

£899 +VAT= £1033.85

ATARI

**NO MONITOR
+ EGA MONO
+ EGA COLOUR**

ABC TURBO AVAILABLE JUNE 90

3½" FLOPPY DRIVE
NO HARDDISK DRIVE
3½" FLOPPY DRIVE
+ 30Mb HARD DRIVE

£599 +VAT= £688.85

£699 +VAT= £780.85

£799 +VAT= £879.85

£1099 +VAT= £1189.85

£1299 +VAT= £1493.85

MAIL ORDER: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-309 1111
Order Lines Open: Mon-Fri 9.00am-8.00pm
No Late Night Ordering Fax: 081-309 0508

LONDON SHOP: 52 Tottenham Court Road, London, W1P 0BA Tel: 071-580 4000
Mon-Sat 9.00am-6.00pm

SIDCUP SHOP: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-302 8811
Opening Hours: Mon-Sat 9.00am-6.00pm
Late Night Friday until 7pm Fax: 081-309 0517

BUSINESS/EDUCATION: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-309 0885
Order Lines Open: Mon-Fri 9.00am-6.00pm
Closed on Saturdays Fax: 081-309 0886

TO: Silica Systems Ltd, Dept NCE1290 2B, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON ATARI PC'S

Mr/Mrs/Ms: _____ Initials: _____ Surname: _____

Address: _____ Postcode: _____

Tel (Home): _____ Tel (Work): _____

Company Name: _____

Which computer(s), if any, do you own? _____

2270 - Silica Systems Ltd. All rights reserved. © 1990 Silica Systems Ltd. Please return the coupon for the latest information.

CORKING XMAS CRIES!!! IT'S THE FABULOUSLY FESTIVE FREE-FOR-ALL!!

£1400! Yes - fourteen hundred pounds of assorted allsorts all for you. And they're only an answer away!

Noel - The final freebie of 1990 isn't a colour NeXT workstation. Nothing so monolithic indeed. Instead we're going for the stocking-at-the-bottom of-the-bed approach. The My-God-what-a-weird-bunch-of-presents-Are-my-parents-on-drugs-or-what? approach. And even if they were they could never imagine what Keith Pomfret looks like with a fluffy white beard and a red hat with a bobble on it. For it is he you have to thank for this miraculous compendium of prizes - yes an even bigger blagger than guy who sold the Eiffel tower to the Yanks as scrap. So what does the incomparable Monsieur Pomfret have in his super soaraway sack for you this yuletide eh chums?

Well, we're giving 450 quid's worth of *3D Text Animator* for the Amiga for starters. Yes, 15 spanking brand new copies of the one and only package available kindly donated by GEM distribution.

But, Amigaheads that's not all. How about 5 annual subscriptions worth £20 a shot to *JAM!* - the Amazing Amiga fanzine we really shouldn't mention because one day it might be competition but in the meantime it's okay 'cos it's not on a newsstand. And neither for that matter is *Cyber Times* - or *Mondo 3000* as we call it round here - the UK's most futuristic fandango beaming in with another 5 annual subscriptions worth another £100 and a whole lot of cutting edge copy. Or, still on the reading front, how about another 5 subs worth a 100 quid to well wonderful *WACCI* - the CPCzine that's wholly produced with *Protex!*

Which brings us nicely onto a couple of copies of *Protex* for the CPC and PCW which would normally knock you back £60 a go if those wonderful wizards at Amor weren't still such an amenable bunch of chappies despite having £750 worth of the 16-bit beauty given away in a competition about Albania of all things.

Yep, this page is WEIRD. And to prove it the next prize we're giving away is three underwater cameras

from Maplin. Wild or what? Monsieur Pom really excelled himself on that one eh? Throw in three *Stretch cameras* - you know, the wide-angle jobbies where you take a roll of film and hand in the camera for development - and that's another £100 worth of goodies. Happy Xmas Maplin! - and keep knocking out the great catalogues.

So what's next? A hundred quid's worth of assorted classical CDs - that's what - What on earth can be going on? Well, Future just happens to publish *Classic CD* so we'll leave the rest up to you.

And finally, oh so finally, there's the *Personal Edition of Navigator* for all your PC roadsters. A £380 piece of pristine route planning software that'll get you from A to B via C and D in no time at all.

Gosh that was a runaround wasn't it? So what are the questions then? Ah, well seeing as how the prizes are so diverse you'd hardly expect the questions to be connected in any way would you? And indeed they're not. In fact there's only one!

And this is it.

1) One snowy morning, Santa and his little elf chums are hanging out in their Lapland castle, drinking large scotches and checking through the thousands of letters they've received that morning. Outside, his seven reindeers are merrily eating their little red berry breakfasts and preparing for the long delivery day ahead. And my, aren't they having fun?

They're laughing their little biffles off are Rudolph the red-nosed reindeer, Prancer, Dasher, Dancer, Donna and Blitzen. But poor old Bruno the brown-nosed reindeer isn't laughing. No Bruno's very sad. He's stood all alone.

He has been ever since the day he slipped when running behind Rudolph in the team. And even Santa had laughed when he found out how Bruno had got his nickname. But Santa's a kind old



Your yo-ho-ho host for the final freebie fliching: Mr Keith Pomfret's just a pervert in red who comes down a chimney'

soul and even now he's coming trundling along towards Bruno with a special message.

"Well Bruno", Santa whispers in his ear, "I have a special job for you this fine crisp morning; a job so special that none of my other reindeers could complete it". Bruno bashfully rears his big brown head to reveal his big brown eyes and looks expectingly at his master. "You must go to California and fetch me a portable NeXT Colour workstation with built-in CD-ROM, rewritable optical disk, RISC graphics processor and custom front-end", Santa continues, casually swigging from his bottle of Scotch. "There's a little boy in England called Timmy who had his stolen by American law enforcement officials and he's been crying his heart out ever since. He's so upset, there were even tears staining the little letter he'd sent to us on Centrefold notepaper". "But", Bruno bashfully replies, "where in California must I go to get this state-of-the-art 68040-based Unix platform?". "Well that's the problem, Bruno", Santa admits, "I don't know - you see I've never been to California as it's far too hot for me and the sight of all those bikini-clad girls would burst the buttons on my tunic. All you can hope for is that the readers of *New Computer Express* might be able to help you out". "Oh yes", says Bruno, "that's a good idea, I'll get in touch with it's editor". "Good thinking, Bruno my boy, I wish you luck on this errand of mercy and I'll wait for your safe return. But remember", whispers Santa while patting Bruno warmly on the head, "You screw up and you're so much dead venison pall".

So readers, where in California is NeXT based? Send your help to "Please, oh please don't kill Bruno" at the usual address. And have a happy Xmas !!

Name.....

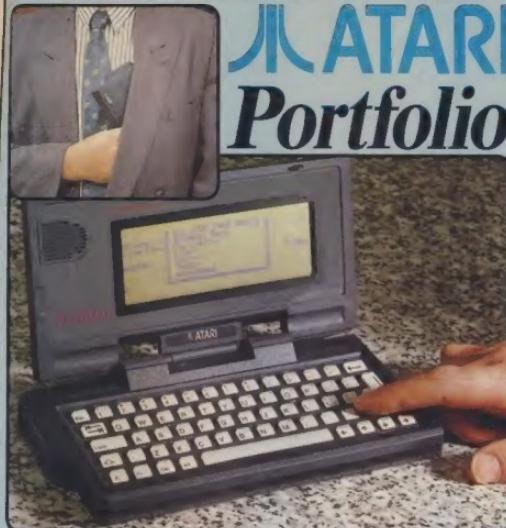
Address.....

The answer is 1)

Seeing as there's loads of different prizes and you don't know which one I'd prefer you better send me.....if I'm lucky

Otherwise, I'll take whatever else is on offer anyway.

★ POCKET SIZED ★ PC-COMPATIBLE ★ PERSONAL ORGANISER ★



ATARI Portfolio

THE PC IN YOUR POCKET

The new Portfolio from Atari is the world's first pocket-sized electronic organiser that is also a powerful PC compatible computer, with a full QWERTY keyboard and scrolling 80x25 character display.

Portfolio includes everything you would expect from an electronic organiser - an address and telephone book, time manager, diary and sophisticated calculator.

Portfolio also includes several functions that you would not expect - a spreadsheet for your personal budget and expense records, as well as a text processor for typing memos and letters.

And, because Atari's Portfolio is PC compatible, it can communicate with your desktop PC at home, or in the office. You can transfer files from one to the other, to enable you to update your reports and figures with the Portfolio while you are on the move.

FOR ONLY £199 INC VAT

SPECIFICATION

- * Processor: Intel 80C88 at 4.9152MHz
- * RAM: 128Kbytes, expandable with MS-DOS 2.1, and applications software
- * RAM: 128K - 128K internal RAM is reconfigurable from 64K to 128K bytes
- * Keyboard: 84-key QWERTY (IBM PC BIOS compatible)
- * Built numeric pad and function keys. Optional key click.
- * Character Set: Extended IBM ASCII (255 characters).
- * Mass storage: credit card sized memory cards (32K or 64K) or 128K RAM disk
- * Display: Graphics (LCD) superheat technology. MDA compatible; 40 columns x 6 lines, 240 x 64 pixels (with the option to window a full 80 x 25 character display)
- * Peripherals: 80 pin expansion BUS to take serial and parallel ports and memory expansion units
- * Size: 8" x 4" x 1" (200mm x 105mm x 25mm)
- * Weight: 495 grammes (with batteries)
- * Applications: calendar, personal diary, address and phone book, Lotus 1-2-3 compatible spreadsheet, text processor, communications software.

COMING SOON!

In addition to the excellent software built in to the Portfolio Free Charge will be the addition of a range of peripheral cards, such as the anticipated Pocket Finance package and串行通信 interfaces are available. And it doesn't stop there! Many manufacturers have expressed an interest in the potential of the Portfolio and have already started to design peripherals for it. Some of these are currently under development include: Serial interface with built in mini monitor, Apple Macintosh interface, business, utility and personal finance packages, and a range of games including a strategy game. For further details on the products on the Portfolio range, fill in the coupon below and return it to Silica Systems now.

5 BUILT-IN APPLICATIONS TO GET YOU ORGANISED!

To get you started, Portfolio comes with a suite of five useful functions built-in, all accessible from a simple menu display.

TIME MANAGER

More than just an electronic diary, the Portfolio Time Manager enables you to plan your appointments via a comprehensive calendar and diary. It can even be programmed to remind you of a specific appointment, or even to remind you of a restaurant's closing times.

CALCULATOR

Your Portfolio will be invaluable in the office or at home as a powerful pocket calculator. It has a full range of functions, including factorial,

power and root calculations, all with multi display formats and memories.

ADDRESS BOOK & DIALLER

Portfolio has a complete address book facility that allows you to store hundreds of addresses and phone numbers. And, at the touch of a button, you can retrieve any one of them, or search for a specific grouping, such as all the addresses for restaurants!

TEXT PROCESSOR

The Portfolio's built-in text processor program

includes word wrap, line and column counting, in fact most of the functions you would find in a word processor. It handles printer and word processor control codes and allows easy transfer of files between Portfolio and your desktop PC.

SPREADSHEET

For real calculating power, Portfolio has a Lotus 1-2-3 compatible spreadsheet built-in. It has 127 columns x 225 rows and is multi-levelled, V1.0 and V2.01 files, so you can transfer data to and from Lotus 1-2-3 on your desktop PC. The Portfolio's 256K ROM includes MS-DOS and PC BIOS compatible systems software.



MEMORY CARDS

Portfolio can store and retrieve data and programs from its own RAM, or from small credit card size memory cards, in three sizes, 32K, 64K and 128K. So you can carry a library of data in your pocket. The built-in drive also accepts ROM cards, which can contain commercial or custom software.



POWER SUPPLY

Portfolio is powered by three AA batteries which will run for up to six weeks with normal use, or from the mains using the optional AC adapter. The AC adapter connects directly to the Portfolio, so no extra battery or adapter are required. The AC adapter also provides a 600mA power source for a laptop computer or peripheral devices.



INTERFACES & PERIPHERALS

Portfolio can communicate with other computers and supports a growing range of peripherals via a built-in 60 pin parallel port. This includes a printer, monitor, keyboard, mouse, parallel interfaces and memory expanders (to 640K). You can also add a graphics card to connect to a desktop PC, or use it as a monitor on its own.

SILICA SYSTEMS OFFER YOU

FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK. TECHNICAL SUPPORT: Help from our team of Atari technical experts at your service. PRICE MATCH: We normally match competition on a "Same product - Same price" basis. ESTABLISHED 12 YEARS: Proven track record in professional computer sales. TRADE SHOWS: Regularly attend major trade shows and reliable with maintained growth. BUSINESS/EDUCATION/GOVERNMENT: Various business and educational software orders. SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches. THE FULL STOCK RANGE: All of your Atari PC requirements from one supplier. FREE BROCHURE: Will be mailed to you with offers and software/technical details. PAYMENT: By cash, cheque, bank transfer, credit card or bank guarantee. CREDIT PAYMENT TERMS: Silica are licensed credit brokers - details on request.

Before you decide to buy when you buy an Atari Portfolio, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Portfolio, when you may require additional peripherals or software. We have had advice with your new purchase. And, will the company you buy from contact you with details of new Portfolio products? Well, we can assure you that new products will be available soon. Silica Systems is a new division of Silica Shop, the UK's leading Atari specialists. This new division has been established to offer a better service to the private user, as well as to business and education purchasers. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unique experience in the field of computer retailing, we claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it, send us a postage paid coupon now, for our latest Free literature and begin to experience the "Silica Systems Service".

SILICA
SYSTEMS

MAIL ORDER: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-309 1111
Order Lines Open: Mon-Fri 9.00am-6.00pm No Late Night Ordering
LONDON SHOP: 52 Tottenham Court Road, London, W1P 0BA Tel: 071-580 4000
Mon-Fri 9.00am-6.00pm Sat 10.00am-5.00pm
SIDCUP SHOP: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-302 8811
Opening Hours: Mon-Fri 9.00am-6.00pm Sat 10.00am-5.00pm
BUSINESS-EDUCATION-SHOWROOMS: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-309 1111

To: Silica Systems Ltd Dept NCE1290 3B 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON PORTFOLIO

Mrs/Mr/Ms: Initials: Surname:

Address:

Tel (Home):

Company Name:

Which computer(s), if any, do you own?

Postcode:

Tel (Work):

Blimp



SPECTRUM
CASS & DISK
AMSTRAD
CARTRIDGE
COMMODORE
CARTRIDGE
ATARI ST
AMIGA

NO TIME FOR
BALLOONIN' AROUND
NO TIME TO SHOOT THE BREEZE

In fact you've hardly set your feet down in the migh...
U.S.S.R. and it's all action. You sight up your latest and most
formidable bubble poppin' piece...but now that boun-
bom has just multiplied!!! Tour the world in the most
addictive arcade game of the year from Mitchell Co.
A quick eye and super fast reflexes will give you just
half-chance of a win... the other half will come
the bounce goes your way.

ocean